

PORT PROJECTS IN THE SAN FRANCISCO AREA

HEARING
BEFORE THE
SUBCOMMITTEE ON
WATER RESOURCES
OF THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
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AUGUST 15, 1983
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PORT PROJECTS IN THE SAN FRANCISCO AREA

MONDAY, AUGUST 15, 1983

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER RESOURCES,
San Francisco, Calif.

The subcommittee met at 9:30 a.m., in room 1194, State Building, San Francisco, Calif., Hon. James Abdnor (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. JAMES ABDNOR, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator ABDNOR. The Subcommittee on Water Resources will come to order. This committee is now working toward the development of two major bills on water resource projects and policies.

We have the Water Resource Development Act and a separate Deep Port Development Act.

The focus of the hearing today is on port projects in the San Francisco area which would be part of this legislation.

I want to say a few words about both of the bills that we are working on here today.

As many of you know, it's been 7 years since Congress has authorized construction of any new water projects. Before projects are authorized, of course, they cannot be funded.

During this same period, there has also been a growing consensus that there is a need for significant water policy reforms and development.

These two movements have been joined together this year and the prospects for water development legislation are better than at any time since 1976. I hope I can prove that with passage this year. The House Public Works Committee has already reported a bill out of their committee which could very well be voted on sometime next month.

In the Senate, this particular subcommittee has begun to mark up a bill, S. 1739, which includes authorization of 6 billion dollars' worth of port projects and also provides for policy changes in regard to cost sharing and spending limitations, project deauthorization, dam safety, and a new partnership with inland navigation users on the management of the Nation's inland waterways.

This subcommittee has scheduled a markup session on the port's development legislation in September when the bay area port deepening projects will be considered. I might also say we are going to con-

tinue marking up on the other water bill on September 14 and we hope we can keep moving forward.

I am, therefore, looking forward to hearing from today's witnesses on these projects. The first witness on our list I don't believe has appeared yet. He is a former colleague of mine when I served in the House, Mr. Miller.

We will go ahead and move down the list and start with William Whalen, executive director of the Maritime Museum Association; Frank Boerger, chairman of the Citizens Advisory Commission, Golden Gate National Recreational Area; Virgil Casselli, Fisherman's Wharf Association; James Haliday, executive director of the California State Historical Society; and Amy Meyer for the Sierra Club, San Francisco Tomorrow, Friends of the Earth, and SPUR. Why don't you folks come forward at this time. It looks like several of your colleagues are not here either.

Maybe we got started too early in the morning.

Mr. WHALEN. Mr. Chairman, we are all here with the exception of one, Mr. Haliday, and he should be here shortly.

Senator ABDNOR. Well just give your name for the reporter and proceed.

STATEMENT OF WILLIAM WHALEN, EXECUTIVE DIRECTOR, NATIONAL MARITIME MUSEUM ASSOCIATION

Mr. WHALEN. My name is William Whalen. I am the executive director of the National Maritime Museum Association here in San Francisco.

Mr. Chairman, with an awareness that the tangible evidence of San Francisco's rich maritime heritage was rapidly disappearing, our organization was formed more than three decades ago to preserve the best of what remained of this colorful aspect of our city's unique personality. One of our earliest successes in this effort was the restoration of the square rigged sailing ship *Balclutha* now established as a revered landmark on the San Francisco waterfront.

Today one of the finest collections of historic ships and maritime objects in the world stand here as testimony to the dedicated work of the Museum Association as well as thousands of other bay area people who firmly believe that the industry and way of life that played such a key part in the development of this region must be appropriately remembered. We are proud that this fine collection is now distinguished as a part of the national park system.

But recognition alone does not insure preservation. As you know the historic ships are exceedingly expensive to maintain. The powerful forces of wind, wave, and surge acting upon tired old hulls now create one of the most difficult historic preservation challenges in the national park system. We think that construction of an adequate breakwater in the Hyde Street pier area would be the single most important measure that could be undertaken to insure the future well-being of this internationally significant collection.

Substantial Federal participation in the proposed Fisherman's Wharf breakwater project will provide protective moorings for all of the historic ships, thereby reducing further maintenance and rehabilitation costs.

This is our major interest in the facility. But a breakwater design expanded beyond what the Port of San Francisco can afford on its own will also accrue other benefits that may be equally important. If you have visited the ships you may have noticed that now they are simply strung out alongside a narrow delapidated pier.

The landward area in which the pier is located is totally devoted to other uses and facilities which are jealously guarded. In short the ships are now hemmed in on all sides.

There is now no space for marine maintenance facilities close by and numerous outstanding nonfloating maritime artifacts are in remote storage locations because there is insufficient room to display them.

The long-range plan for the Maritime Museum envisions not only protected moorings for the ships but also an attractive and comfortable setting where visitors will want to spend leisurely hours enjoying the vessels and programs relating to them. With an expanded breakwater made possible by Federal funding, there will be sufficient space to provide for the optimum display of existing ships in the collection, the potential for modest expansion in the future, space to display and interpret nonfloating artifacts and perhaps most importantly, space to locate facilities to house essential maritime crafts where they belong—close to the ships and in a location where the public can observe the pursuit of some fascinating but disappearing traditional industrial arts.

In my opinion these significant improvements in the visitor experience will make it reasonable to charge a modest user fee to help defray the astronomical maintenance costs that are now outrunning us.

This benefit in conjunction with complete breakwater protection and improved maintenance facilities will insure that San Francisco's historic ships will long endure. Without Federal support for an expanded breakwater the going will continue to be rough. Please help us invest in the future of this national treasure. Thank you.

Senator ABDNOR. Thank you, Mr. Whalen.

STATEMENT OF AMY MEYER, COCHAIRMAN, PEOPLE FOR A GOLDEN GATE NATIONAL RECREATION AREA

Ms. MEYER. My name is Amy Meyer and I'm the cochairman of an organization called People for a Golden Gate National Recreation Area, which is the Citizens group that worked for the establishment of the National Park at Golden Gate.

I am representing, as well, four other organizations: Sierra Club, SPUR, San Francisco Tomorrow, and Friends of the Earth.

The five above-named groups include San Francisco's oldest, largest, and most comprehensive conservation and park support organizations. Each worked actively in support of the legislation establishing the Golden Gate Recreation Area and the National Maritime Museum. Today this park has the highest visitation in the national park system, about 10 percent of the national park visitation program.

We want people to be able to derive full benefit from the park's unsurpassed natural scenic, historic, and recreational treasures.

The ships at the National Maritime Museum are battered by the winds and surge of every storm that comes in the San Francisco Bay.

The demanding job of keeping them in good condition is made far more expensive by their unprotected situation. The tremendous cost of keeping ships structurally sound and attractive could be lessened significantly by providing protection for them.

The proposed city of San Francisco breakwater would not be adequate to protect the historic ships. It is too short and too small. The proposed configuration would also cut off the end of the Hyde Street pier and prevent development of necessary onsite maintenance facilities.

It would foreclose the opportunity to develop an interpretive program that would reveal these maintenance processes to the public and allow appreciation and enjoyment of them as integral to the collection.

We ask the subcommittee to endorse a Federal subsidy for the San Francisco breakwater, which when combined with city funds would give necessary protection to the historic ships of the National Maritime Museum, as well as the opportunity to develop the maintenance and interpretation they deserve. Thank you.

Senator ABDNOR. Thank you, Ms. Meyer.

STATEMENT OF FRANK BOERGER, CHAIRMAN, GOLDEN GATE NATIONAL RECREATION AREA CITIZEN'S ADVISORY COMMISSION

Mr. BOERGER. Senator Abdnor, my name is Frank Boerger. I am the chairman of the Citizen's Advisory Commission appointed by the Secretary of the Interior. We act as a sounding board for the general public on planning and management matters relating to the Golden Gate National Recreational Area. Over the past 9 years we have held literally hundreds of meetings and workshops in this pursuit and are proud that we have helped the National Park Service to develop management plans that have been approved with wide public acceptance.

Through this process I have come to believe that one of the toughest situations that faces the Park Service at this most visited unit of the national park system is to effectively preserve and exhibit a highly significant collection of historic ships. Although the ships represent only a small segment of the Golden Gate National Recreational Area, their uniqueness, the high rate of visitation they generate, and the notorious maintenance costs incurred by their general state of deterioration are factors that have elevated this to a problem of crucial importance.

Although old age itself is the key factor affecting the condition of the ships, it is clear that their location in an unprotected area exposed to the constant stresses of waves and a powerful surge is their most critical solvable problem. Naturally the continual pounding that the vessels sustain on a daily basis is dramatically punctuated by storm events. This past winter the three-masted schooner *C. A. Thayer* snapped one of her steel anchor chains in a storm and battered a 5-foot gaping hole in her side against the pier pilings.

Working with the Park Service and the public, our commission has looked at a wide variety of alternative solutions to this serious preservation problem including possible sites currently outside the park. But our firm conclusion is that improved breakwater and mooring

facilities at the Hyde Street pier offer the best opportunity to properly protect and display the ships.

Reaching this conclusion has involved what I consider to be a noteworthy cooperative venture between Federal and local government. The Fisherman's Wharf breakwater plan jointly formulated by the Port of San Francisco, the Corps of Engineers, and the National Park Service appears to be an exemplary case of making the most of scarce tax dollars. If, as we are strongly advocating, the Federal Government sees fit to participate substantially in the construction of this breakwater, you will be helping to accomplish several objectives whose net result will be to preserve the colorful character and vitality of a great seaport. Of course, you will be accomplishing the original purpose of the breakwater—to preserve and enhance the commercial fishing industry in the Fisherman's Wharf area.

But at the same time you will be taking a major step toward fulfilling a preservation responsibility that began in 1977 when the State of California entrusted the ships to the care of the Park Service. As you may know, most of the vessels are listed on the National Register of Historic Places. One of them has been further distinguished as a national historic landmark—and it also appears as if a second vessel is about to receive this honor.

A breakwater with substantial Federal funding will also help to improve historic ship maintenance activities and the general aesthetic qualities of the area. By improving the overall condition of both the fishing fleet and the historic fleet, the attractiveness of this already popular tourist destination should be significantly increased.

Considering the long range impact of all these benefits and the millions of people from all over the world who will enjoy them, it seems to me that this project should be a high priority for authorization. Thank you.

Senator ABDNOR. Thank you. Virgil, good to have you back.

STATEMENT OF VIRGIL P. CASSELLI, CHAIRMAN, GOLDEN GATE NATIONAL PARK COOPERATIVE ASSOCIATION

Mr. CASSELLI. It's a pleasure to have you back. My name is Virgil Casselli. I am a native of the Fisherman's Wharf/North Beach area of San Francisco, the progeny of a fishing family and the past president of the Fisherman's Wharf Merchants Association. Additionally I am a preservationist, chairman of Golden Gate National Park Cooperative Association and former general manager of Ghiradelli Square, located where Fisherman's Wharf and Golden Gate National Recreational Area come together.

These diverse activities bear a common trait and that is a love and understanding of the traditions, resources, needs, and directions of this physically and culturally rich district and city.

I have been fortunate to spend the last 10 years making my living within five city blocks of my birthplace and to have the opportunity to be involved with many dedicated colleagues on the port staff, of the wharf associations and of the GGNRA staff in attempting to fulfill undisputed needs and potential for this area at the conjunction of

GGNRA/FW/port. The symbol of this area has become the breakwater that we ask your affirmative recommendation on today.

In summary, this symbol, this objective, this breakwater means the salvation and revitalization of an atrophied local industry that strives to support over 500 separate businesses and 30,000 employees in our area, the fishing industry and it's concurrent visitor industry; adequate protection for a return of a fishing fleet that has scattered up and down the coast for shelter to avoid damage. Last year's damage total was \$250,000, involving inadequate facilities and relentless westward surges into the present basin. Also cost efficiency of new current fish processing and handling facilities meaning faster, lower cost distribution to the large bay area market as opposed to present scattered and remote facilities and need for trucking product to market.

It means expansion of the job market for all phases of the industry including boat cruise, processing, retail wholesale distribution. It means preservation of the Fisherman's Wharf area for authenticity of its fishing fleet/fresh seafood supply, et cetera which has rapidly diminished over the years and is seriously threatened unless revitalized.

It means fulfillment of existing demands that will bring the fleet back where it wants to be, near its biggest market.

It means adequate protection to GGNRA facilities and in particular the largest collection of historic ships in America, those of the National Maritime Museum at Aquatic Park which are to be encompassed within the Army Corps breakwater plan.

Presently one of the historic vessels, the *Wapama* has been in dry grounds for 4 years awaiting funds to repair damage resulting from wave action. As a matter of fact, Senators Cranston and Wilson of California have pledged to help *Wapama* and Senator Durenberger of Minnesota has assured me he will consult with our Senators to help *Wapama*.

The point is, such damage and resulting expense to *Wapama* and other vessels in the fleet could be substantially reduced or avoided if only we had a breakwater—in 1983 four ship repairs of this nature could pay for the breakwater. When we first requested Federal help to build a breakwater the cost was one-third of the projected cost. This means the Army Corps breakwater will allow expansion of the historic fleet to fulfill the GGNRA master plan. Several artifacts are now available for donation to NPS—which they're unable to accept for lack of protective berthing.

This means the breakwater will provide ample shoreside opportunities for maintenance and restoration crews to operate a working environment and expand interpretive programs which are NPS missions.

This Federal Army Corps breakwater is widely acknowledged to be substantially superior to a local alternative that has been considered on the heretofore assumption that the Federal project has become a hopeless dream after years of lobbying and after years of authorization but no appropriation and years of appropriation but no authorization.

Please take our message to Washington that San Francisco needs the Army Corps breakwater because it fulfills all local and GGNRA

needs, because it is economical, because it has a high-cost benefit ratio and because its need is overwhelmingly obvious—manifest by the fact that a local agency is prepared to develop a less costly and less effective version merely to protect about half as many fishing vessels and which will afford virtually no improvement in protection to the adjoining historic fleet.

If we're that determined locally, can't Washington see the need to construct the right breakwater, the one that will pay for itself in Federal savings alone considering the cost of repairs to maintain a historic fleet of ships that remain unprotected, and the one that will pay for itself by increasing Federal revenues by creating more businesses and jobs in the private sector.

In conclusion, I'd like to read some quotes from the 1974 Mayor's Citizens Advisory Committee for the Preservation and Beautification of Fisherman's Wharf, if there is ample time to do that. They are in the record as an attachment to the testimony. Nonetheless, I would like to read this into the record.

Senator ABDNOR. How long do you think that will take?

Mr. CASSELLI. About 4 minutes.

Senator ABDNOR. Go ahead.

Mr. CASSELLI. Thank you. I appreciate the opportunity.

This is a report of the Mayor's Citizens Committee for the Preservation and Beautification of the Fisherman's Wharf area. It was prepared in 1974 and it was chaired by Mr. Alessandro Baccari, a long-time member of the association. I'll take some salient quotes out of this study.

The first one is, The reason for San Francisco's fall from prominence as a center for the commercial fishing industry not lying with any decline in the fish catch as will be documented elsewhere in this report.

As a matter of fact, it had been increasing over a number of years.

Still other boats have moved to Ft. Bragg, Eureka, Half Moon Bay and other coastal ports. What caused the fishermen to abandon San Francisco was a severe deterioration of facilities and services at Fisherman's Wharf over the past decade or more. Piers were allowed to rot and instead of being repaired or replaced were moved, section by section. This not only reduced the number of available berth spaces, but it destroyed the breakwater effect of the piers, and allowed water swells to sweep into the formerly sheltered harbor.

Meanwhile other Bay Area and central coast ports have consistently improved their facilities for the fishermen and their boats and their policy toward the fishing industry has been one of active encouragement and cooperation.

The fishermen who berth their boats at Fisherman's Wharf and those who dock there occasionally from other areas are unanimous in one regard. That is that San Francisco offers the worst facilities of any port on the coast for commercial fishermen.

This is 1974 and that continues to be the case.

To provide the necessary protection, a breakwater is needed and the fishermen have been pleading for this for more than 20 years. And in 1966 the Port of San Francisco formally requested an Army Corps of Engineers study for breakwater, but following the initial hearing little was done to advance the project since no clear cut development plan was presented.

Probably the most fundamental problem at Fisherman's Wharf is that of the surge which causes frequent damages to boats in the inner harbor and makes the outer harbor unuseable for permanent berthing.

In a letter from the Port of San Francisco from its then chief engineer to the chairman of that committee, Mr. Alessandro Baccari,

We all recognize that a breakwater is one of the basic improvements required to expand fishing activities in the area. . . . Because of the great costs involved, we must try to secure federal and state financial assistance; therefore, continued citizen involvement and help is most important. I might add that's why we're here today.

For the ultimate preservation of the fishing industry and development of the Fisherman's Wharf harbor for its use, however, the most crucial need is for a protective breakwater.

And finally, The need for a breakwater was recognized in 1966 when at the request of Representative Philip Burton, he sponsored a congressional resolution directing the Army Corps of Engineers to initiate a breakwater study at Fisherman's Wharf. . . .

Thank you very much.

[The attachment to Mr. Casselli's statement follows:]

REPORT OF THE
MAYOR'S CITIZENS COMMITTEE
FOR THE
PRESERVATION AND BEAUTIFICATION
OF THE
FISHERMAN'S WHARF AREA

INTRODUCTION

In June of 1973, the Mayor's Citizens Committee for the Preservation and Beautification of the Fisherman's Wharf Area was formed. Its purpose was to investigate what could be done to eliminate the danger of San Francisco losing what remained of the fishing fleet that had brought worldwide fame to the Wharf area as well as economic prosperity to the varied enterprises which had grown up around it.

That danger still remains -- but through the efforts of the Committee and the cooperation of many, much progress has been made toward reversing the trend and restoring the original purpose and character to Fisherman's Wharf.

The basic problem areas uncovered by the Committee were: (1) the neglect of the fishing industry by the Port; (2) the loss of authenticity brought about by a growth of enterprises having no relation to the original historic character of Fisherman's Wharf; and (3) the lack of coordinated planning for the area.

In studying the problems the Mayor's Committee actively solicited the views of those who earn their livelihood in the area. Not only were the fishermen, fish processors, and area businessmen well represented on the Committee, but this same local population was thoroughly polled by means of oral interviews and written questionnaires. The surveys were designed to elicit their opinions on present conditions and needs, as well as determine specific facts about their operations as regards impact on traffic. A special questionnaire was designed for tenants of "Fish Alley" concerning present use of their area, their needs, and their views on the future development in and around the boat basin. The fishermen were interviewed orally, and their comments recorded on tape.

Throughout the study the Committee made a deliberate effort to meet with all groups, departments and agencies having jurisdiction over or concerned with planning for the area.

The recommendations for a development plan as submitted in this report are based on a planning process that was fundamentally people-oriented.

While there are a number of fishing industry needs, such as long-term leases for the processors and repairs to wharf and pier areas currently in use, the most crucial need for the ultimate preservation of the fishing industry and development of the Fisherman's Wharf harbor is for a protective breakwater. The

Mayor's Committee is pleased that both the BCDC Waterfront Advisory Committee and the Port have adopted the basic concepts of our development plan as the single undisputed alternative for the Fisherman's Wharf area.

Although the first priority of the Committee was preservation of the fishing industry, there was constant thought and consideration to the relationship of the industry sector to the Fisherman's Wharf area as a whole, and to planning needs in that larger area, which stretches from Van Ness to Powell and from Bay Street to the waterfront.

This report represents a year's work by the Committee. It was undertaken and completed at no cost to the City.

Alessandro Baccari
Chairman of the Mayor's Citizens
Committee for the Preservation and
Beautification of the Fisherman's
Wharf Area

of berth spaces are occupied by pleasure craft and inactive boats, none of which hold any special value for Fisherman's Wharf. At the same time, fewer and fewer boats call at San Francisco from other areas. The reasons for this decline are discussed below.

B. Economic Significance

Despite the loss of much of the earlier color, Fisherman's Wharf remains of great economic value to both the City and the Port of San Francisco. The Wharf has been shown in surveys to be San Francisco's most popular specific attraction for visitors, surpassing such other well-known landmarks as the cable cars, Chinatown, etc. Its value to the City's economy in terms of tourist and convention business is therefore incalculable.

Fisherman's Wharf enterprises contribute important property tax, sales tax, and business license returns to the City, and provide very substantial employment. Those which are situated on Port property contribute 11% of the Port's operating revenue -- much more per square foot than any other portion of the waterfront.

The question to be faced is how long Fisherman's Wharf can maintain its unique economic contribution if the fishing industry is allowed to diminish further or to disappear altogether. While there is a broad range of opinion with regard to San Francisco waterfront planning and development, on one point the Mayor's Committee found unanimous agreement: that the visible presence of the fishing fleet, the fish processors, and the nautical supply houses, in an authentic working atmosphere, is indispensable for the economic viability of all other commercial enterprises in the area, and is what both resident and tourist visitors expect and desire to find at Fisherman's Wharf, without which they would have little interest in visiting the area.

C. Basic Problem Areas

1) Neglect of the Fishing Industry

The reason for San Francisco's fall from prominence as a center for the commercial fishing industry does not lie with any decline in the fish catch (as will be documented elsewhere in this report). Moreover, almost as many boats sail through the Golden Gate as before, but now they dock at Sausalito, Richmond, Oakland, Alameda, and other bay locations to unload their catches, with San Francisco's share being reduced. Still other boats have moved to Ft. Bragg, Eureka, Half Moon Bay, and other coastal ports.

What caused the fishermen to abandon San Francisco was a severe deterioration of facilities and services at Fisherman's Wharf over the past decade or more. Piers were allowed to rot, and instead of being repaired or replaced were removed, section by section. This not only reduced the number of available berth spaces, but it destroyed the breakwater effect of the piers and allowed water swells to sweep into the formerly sheltered harbor.

Over the years there have also been small encroachments on space formerly used by the fishermen. Each of these, such as the expansion of a restaurant or the construction of a new rental storage area by the Port, may not in itself have seemed a major disruption, but cumulatively they have contributed to the erosion of commercial fishing activity at the Wharf.

Meanwhile, other Bay Area and central coast ports have consistently improved their facilities for the fishermen and their boats, and their policy toward the fishing industry has been one of active encouragement and cooperation.

This has not been the case in San Francisco. The facilities offered are the barest minimum, and are often in disrepair. Many key accommodations are completely lacking. And, until very recently, there has been no evidence of official encouragement that would induce present fishermen to remain or those based elsewhere to come here.

2) Loss of Authenticity

The neglect of the fishing industry has been accompanied by a growth of enterprises having no relation to the original historic character of Fisherman's Wharf. While there is ample room for a diversity of enterprises -- restaurants, hotels, shops, offices, etc. -- if the authentic working atmosphere of the fishing industry which attracted these satellite businesses to Fisherman's Wharf in the first place is removed, then the entire scene takes on a "plastic" nature. The presence of pleasure craft in the fishing boat basin only adds to this synthetic aspect.

Preservation of the fishing industry will help to restore a proper balance between the original nautical character of Fisherman's Wharf and the commercial and entertainment elements which have profited therefrom. But to maintain the overall authenticity of atmosphere, it is necessary also to insure a proper blending of the various elements -- to avoid overbuilding and to establish principles of visual and thematic harmony for the area. This has not been done up to now, and it is the reason why the Mayor's Committee was concerned with "beautification" as well as "preservation."

In view of the above documentation, it is clear to the Mayor's Committee that any decline of Fisherman's Wharf has not been due to scarcity of fish -- and furthermore that the favorable outlook gives added strength to the case for improved facilities at Fisherman's Wharf.

B. Needs of the Fishermen

The fishermen who berth their boats at Fisherman's Wharf, and those who dock there occasionally from other areas, are unanimous in one regard. This is that San Francisco offers the worst facilities of any port on the coast for commercial fishermen.

In countless interviews with the fishermen, documented on tape recordings, the Mayor's Committee found the physical conditions at Fisherman's Wharf to be the main reason so many commercial fishermen have fled San Francisco, or have avoided coming here.

To provide the necessary protection, a breakwater is needed, and the fishermen have been pleading for this for more than 20 years. In 1966, the Port of San Francisco formally requested an Army Corps of Engineers study for a breakwater, but following the initial hearing little was done to advance the project, since no clearcut development plan was presented.

This was the situation at the time of formation of the Mayor's Committee. Realization of this much-needed project therefore became a key goal of the Committee. Meetings were held with Corps representatives as well as with the Port on this subject, and the fishermen and processors were asked their views on the type of breakwater needed and the type of development that should accompany it.

These views were conveyed to the Port, which has now drawn up a plan that places full emphasis on preserving the fishing industry. This, in turn, has been submitted to the Corps of Engineers, and the project is moving ahead at maximum speed.

This is in spite of the fact that Fisherman's Wharf has a number of intrinsic advantages, according to the fishermen. Many of them, for example, have roots in nearby North Beach. They would prefer to make San Francisco their base to be near friends, family and the active social life of the city.

Another advantage is the closeness of Fisherman's Wharf to the Golden Gate in comparison with ports further inland such as Oakland, Alameda, and Richmond, where many former

San Francisco fishermen now keep their boats. From Fisherman's Wharf, travel time to the open ocean is an hour less, and the fishermen state that they can survey weather conditions much more easily from this side of the Bay.

Thus, although many have left, there is still a strong core of those who remain, and others who are now based elsewhere but because of family ties or other reasons would like to move to Fisherman's Wharf despite the present poor conditions.

Probably the most fundamental problem at Fisherman's Wharf is that of the surge which causes frequent damage to boats in the inner harbor and makes the outer harbor unusable for permanent berthing.

In the meantime, however, there is much that needs to be done to bring existing conditions at Fisherman's Wharf up to the standard of other ports up and down the coast. Discussions with the fishermen and firsthand observation by the Mayor's Committee reveal the following problem areas:

Wharves and Piers

Much of the wharf and pier area in and around Fisherman's Wharf harbor is in a deteriorated state. Rotted portions have been removed and not replaced; pilings are missing; sections needing repair are fenced off, thus removing them from daily use; and boats are not adequately protected against contact damage.

Storage Lockers

A basic need of fishermen anywhere is for a place to stow their extra gear, bait and other supplies while at sea or ashore. At Fisherman's Wharf, this has been provided by rows of wooden lockers formerly made available to the fishermen as a courtesy of the gasoline companies and other sponsors but more recently taken over by the Port and rented to the fishermen for a nominal amount per month.

While these lockers have in the past served the purpose, their condition has become more and more dilapidated, with little or no maintenance being performed on them. Moreover, a large section of them were scheduled to be removed to permit expansion of Scoma's restaurant.

Sanitary Facilities

While other ports provide such amenities for the fishermen as hot showers, automatic laundries, and rest areas, the only comfort facilities offered at Fisherman's Wharf are two portable toilets, both of which are in deplorable condition.

All of these plans were nevertheless useful to the Mayor's Committee as reference points, since the comments of the fishing industry people about them helped to clarify and give direction to the kind of design that is really needed.

C. Committee Recommendations

1) Breakwater

In the view of the Mayor's Committee, there are a number of fishing needs, such as long-term leases for the processors and repairs to wharf and pier areas currently in use, which can and should be carried out immediately.

For the ultimate preservation of the fishing industry and development of the Fisherman's Wharf harbor for its use, however, the most crucial need is for a protective breakwater.

This need dates back to 1938, when ferry service to Marin County came to an end due to opening of the Golden Gate Bridge. Up until that time, the Hyde Street Pier was well maintained and helped to protect the Fisherman's Wharf harbor against water swells that swept in from the Golden Gate. Further protection was provided by finger piers that extended well beyond where they end today.

After the ferries stopped running, the entire east side of the Hyde Street Pier was allowed to deteriorate. And as pier sections inside the Fisherman's Wharf harbor became in need of repair, they were often simply removed and never replaced.

As a result, the boat basin has been subject to severe water surge for more than 20 years, causing damage to vessels as they are tossed against the pilings, eroding the piers and wharves as the ropes holding the boats work up and down on the pilings year after year, and rendering the outer harbor (beyond Wharf J7) unusable for berthing.

The fishermen and others concerned with the industry have been pleading for years for a breakwater to eliminate this serious problem. Many gave up, and moved their boats to other ports rather than subject them to continued wear and tear. While the Mayor's Committee was in session, one boat -- the "Salmon" -- was sunk in the harbor by a particularly heavy swell.

It is no exaggeration to say that the surge problem is the biggest single factor that has driven the fishermen away from Fisherman's Wharf in recent years.

The need for a breakwater was recognized by the Port in 1966 when, at its request, Rep. Phillip Burton sponsored a Congressional resolution directing the U.S. Army Corps of Engineers to initiate a breakwater study at Fisherman's Wharf. It was four years, however, before any action was initiated on the project. This was because the study did not become an approved item in the budget of the Corps' San Francisco District until the 1969-70 fiscal year. While there could be various reasons for the delay, lack of adequate pressure by the Port may have been one of them.

A public hearing was finally held on June 24, 1970, at which the principal testimony was presented by Eugene L. Sembler, who was then Chief Engineer for the Port. Key portions of his testimony follow.

"To keep the fishing boats and fish processing plants in this area, improvements are badly needed. Without the boats, the entire complex is threatened. Not only would the fishing industry be harmed but the restaurants, the tourists and even the Port of San Francisco would suffer.

"While we have a large demand for additional berths, there is no place that additional berthing can be built in protected water. Because berthing is limited to the small inner harbor, it has not been possible to provide ready access or any conveniences to the commercial fishing craft in the area. All these problems could be reduced if the surge problem could be overcome and the harbor expanded.

"With the development of an expanded harbor, some of the deficiencies of the present fishing boat harbor could be overcome. Provisions could be made for fishermen to get supplies and equipment directly to their boats. Public loading areas could be established. The harbor could be made safer and more usable. We also would hope that our boat ways, which have always been of keen interest to visitors, would again become an economically feasible facility. Modernizing of berthing facilities would make life much safer and more convenient for our fishermen. Construction of the breakwater would make feasible an investment of \$2,000,000 to \$10,000,000 to develop the balance of the basin."

PORT OF
FERRY BUILDING



CITY OF SAN FRANCISCO • JOSEPH L. ALIOTO, MAYOR
SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA 94111 • TEL.: (415) 391-8000

April 26, 1974

Mr. Alessandro Baccari, Chairman
Mayor's Committee for the Preservation
and Beautification of Fishermans Wharf
319 Pacific Avenue
San Francisco, California 94111

Dear Mr. Baccari:

Most of us here at the Port are looking forward to the publication of the committee's report. I have enjoyed working with your committee during the last six months. After the report has been received by the Mayor, I hope you will make a full presentation to the Port Commission. I am confident that the objectives of the report in maintaining the historical character of the fish industry at Fishermans Wharf can be achieved.

We all recognize that a breakwater is one of the basic improvements required to expand fishing activities in the area. It is my hope that the interest generated by your committee will not be put aside with the publication of the report, but can be used to assist in the improvement process. Because of the great costs involved, we must try to secure Federal and State financial assistance; therefore, continued citizen involvement and help is most important.

The work of your committee has shown a renewed interest on behalf of commercial fishing boats wishing to be based in San Francisco. You have also shown that commercial traffic does not conflict with the peak hour, peak day, peak seasonal traffic congestion at the Wharf. Most importantly, the committee has furthered communications between all interested parties--public and private.

Senator ABDNOR. Thank you. Who made this study?

Mr. CASSELLI. This study was conducted in 1974 by a panel appointed by the mayor of San Francisco. It included members of the restaurant association, Friends of the Earth, architects, members of the Chamber of Commerce, the Port Commission, operating entities in the bay such as tug boats, retail industry, the Maritime Museum, Ghirardelli Square which I represented for a number of years, and others.

Senator ABDNOR. It is well represented. Did they have a consultant with them?

Mr. CASSELLI. No. It was a panel. They worked together over the course of the year to uncover the problems, identify them, and to recommend solutions. It was chaired by Mr. Alessandro Baccari who is even today secretary of the Fisherman's Wharf Merchants Association.

Senator ABDNOR. You mentioned your local proposal at one time. What was the cost or the scale of that?

Mr. CASSELLI. Well, it's really quite a bit different and it's an inferior product. If you hear testimony from port representatives today, that will be readily acknowledged. It's a stop gap measure because the need is so bad and the mayor and the port have wanted so much to help the fishing industry to recover that they have come up with a plan but because of the cost, it must necessarily be of lesser magnitude and lower cost basis because the city simply does not have the kind of resources to fund the appropriate or desired breakwater.

Senator ABDNOR. What is that cost?

Mr. CASSELLI. The cost of the lesser breakwater, I believe, is approximately \$7 million. I think it's in that range.

Senator ABDNOR. So you believe it is totally inadequate?

Mr. CASSELLI. It is inadequate. It will provide only half the berths of the preferred Army Corps breakwater. It will not be accessible to the fishermen to get out to their vessels.

It will afford no protection whatsoever to the historic ship fleet.

Senator ABDNOR. Let me ask you all one question. You've been working on this a long time. I remember we talked about it last time I was out here. How much time have we got to really bring this project into being? Can you make a guess?

Mr. CASSELLI. I can tell you that the matter is overwhelmingly urgent. Even before this panel was organized, efforts had been made. The fishing fleet has been battered to pieces. I quoted the damage incurred on an annual basis of roughly a quarter of a million dollars.

Because they are being battered, the need is now. We recognize, however, that if it's authorized and approved this year, it will be 3 years before we have it. We are prepared to wait for that amount of time because it can't be done any faster.

Senator ABDNOR. I see Mr. Boerger wants to comment on that.

Mr. BOERGER. Yes. The time is now. If we had the breakwater now we'd be in much better position than we will be whenever it is built because in the interim time, we will continue to accrue damages to the historic ships. That will cost somebody some money some day in order

to straighten them out so the earliest that it can be done will give us the best relief as far as the Park Service ships are concerned.

Senator ABDNOR. I'm sure you will all agree.

Mr. CASSELLI. Certainly the National Park Service has made a lot of studies on this and is certainly prepared in Washington to talk about their capability of maybe being able to join with the public works and see if something jointly might be done.

Ms. MEYER. I think this is perceived as a prophylactic measure to protect the ships rather than constantly repairing them. I mean, we just have a much better situation and we have much greater respect for what the Park Service has been able to do in this area, to have the National Maritime Museum here to have this wonderful collection here and not to take care of it does not bring respect for Government and that's sad.

That is not good for citizens to perceive and I'd like to see the Park Service continue with the respect it normally enjoys here.

Senator ABDNOR. Ms. Meyer, in your statement you said the proposed city of San Francisco breakwater would not be adequate to protect the historic ships. Is that the city plan?

Ms. MEYER. The city plan would not cover the area of the historic ships properly and it would cut into the Hyde Street pier and cut off the interpretive facilities and maintenance facilities that are supposed to be out in the far end of the pier as designed by the National Park Service.

It would help the local fishing fleet and this is why I'm here, because of the concern for the historic ships. This is why the group is here. We are here to see that those historic ships are protected.

Senator ABDNOR. Thank you. I might ask you, Mr. Whalen, what do you mean by a modest user's fee?

Mr. WHALEN. At the present time the Park Service is prohibited by an act of Congress from collecting fees. There are moves on here locally to try to petition the appropriate committees to allow modest fees to be collected at Hyde Street which in turn could be made part of the recurring maintenance fund that they would need to take care of the ships.

Senator ABDNOR. Thank you, we appreciate you coming in this morning.

I see Congressman Miller has not arrived yet so we will call on Eugene Gartland, president of the San Francisco Port Commission.

STATEMENT OF EUGENE L. GARTLAND, PRESIDENT, SAN FRANCISCO PORT COMMISSION

Mr. GARTLAND. Thank you very much, Senator, and welcome to San Francisco. You've caught some good weather today. I understand you left some bad weather yesterday.

I would like to thank you and your staff for spearheading what I think is a project that is vital to San Francisco and vital to the United States, vital to the best interests of the United States in two particular ways.

I have previously submitted a statement which I will ask to be made a part of the file and I would like to briefly comment on that statement at this time.

Senator ABDNOR. That's fine. Your entire statement will be made a part of the record.

Mr. GARTLAND. Thank you, Mr. Chairman. As I stated, this proposal that you have initiated through legislation is vital to the United States in two different ways. No. 1, it's not just San Francisco that is involved. The fishing industry is an industry that effects all of northern California, Nevada, and contiguous States. Mr. Casselli made the statement that our fishing landings have increased. In fact they have increased tremendously.

In 1968, for example, we landed approximately 4 million pounds. In 1979 it was 16 or 17 million pounds.

Now the other interest which the United States has in this project is historic vessels and this is one of the finest collections of historic vessels in the world, much less in the United States.

Because of the prevailing westerlies, these vessels are unprotected. So that the interest of the United States appears in two special ways as I have said, commercial fishing and the historic vessels which are under the jurisdiction of the National Park Service.

Now before this committee has been placed two engineering proposals. Let me address that of the ports.

The Port of San Francisco was stopped in 1980 from proceeding because of special Executive order that prevented us from getting legislation out of Washington to pay for breakwater. Nevertheless, we proceeded with preliminary engineering plans, spent \$350,000 for that. We spent \$100,000 for geotechnical information and we put another \$400,000 into final engineering studies. All of the studies have been made according to corps specifications.

The first preliminary engineering study was done by Bechtel. I must say at this time I'd like to thank publicly the corps for its participation and help in the project that we have so far carried forward.

The corps was prevented from doing so in the past. Now the corps has also proceeded in past years to prepare a specification for construction of a breakwater. The differences between two breakwaters, if you laid one on top of the other, are really not that much different.

I differ with Mr. Casselli that the proposal prepared by the port is one that would not protect the historic vessels that are there now.

I think the major difference would be that the port proposal prepared by Bechtel might not allow the Park Service to increase its number of historic vessels.

The difference in cost is considerable. Our estimates of cost for breakwater are \$7 million and the corps' preliminary estimates were \$16 million.

The reason for that is twofold. No. 1, our breakwater is built in a much shallower water than that proposed by the corps.

No. 2, our breakwater is quite a bit smaller and every foot of breakwater is \$1 million or so—I don't know what the exact figure is but it's tremendous. Every foot that you extend the breakwater, but the engineering difference when you look at the results are not that radical.

For example, when we first proposed building a breakwater at Fisherman's Wharf, it was anticipated that we would need something

like 250 berths for fishing vessels. With a change in the fishing industry there is no such need at this time.

I think 50 percent of that would probably be sufficient if we had 50 percent modern berth facilities.

Now, Senator, when we first had this proposal and we entered into preliminary understandings with the Corps of Engineers, we had a cost-sharing basis which we had agreed to at that time which would be 23.3 percent local and the remainder would be Federal.

Now we understand that there may be legislation on this particular matter and we would hope that this legislation would adopt what we previously agreed to. If not, we would look at any proposal that did come out of the Congress after consideration of all the facts and circumstances.

Senator, we would again wish to thank you for coming to San Francisco for looking at this project and for giving us your time and your interest.

We wish to thank your staff for their participation and at this time I'm prepared to answer any questions that you may have.

Senator ABDNOR. Thank you. We were talking about the differences between \$7 million and the \$16 million. What is the principal benefit of building a longer breakwater? Is it because of these antique ships? Is that the biggest benefit out of it?

Mr. GARTLAND. Well, the breakwater that has been proposed by the corps, No. 1, is in deeper water. It would have a larger basin which would provide ability to bring in more historic vessels.

It would also provide the ability to have more fishing berths. I don't think we need more fishing berths than those we have proposed in ours. I don't know whether or not the National Park Service can or would be able to take care of more historic vessels.

Senator ABDNOR. How many were there?

Mr. GARTLAND. Let's see if I can remember them. There's the *Eureka*, the *Thayer*, the *Atlas*, and I believe you've got the *Hercules*. I believe there are five or six.

Senator ABDNOR. Are they planning to increase that considerably?

Mr. GARTLAND. If you went for the bigger breakwater, you would increase the ability of the Park Service to bring in historical vessels.

Senator ABDNOR. Are these ships moored at various places?

Mr. GARTLAND. We have another historical vessel down on the other side of the wharf. I recently heard conversations about bringing the ship in from the Falklands. I guess you could bring in historical vessels from any place if you wanted to.

One further thing, Senator, if I may. One of the things we'd like you to consider in your subcommittee is enabling the corps to adapt our engineering studies and design; if they so desire rather than have to go back to reinvent the wheel, as it were.

The work that we have already done and we have contracted for, I think, should satisfy the corps if they decide to go with the type of breakdown we are talking about.

Senator ABDNOR. Is that the \$7 million original proposal?

Mr. GARTLAND. That's correct.

Senator ABDNOR. Well, I'm sure we'll be interested in hearing their comments as well.

Mr. GARTLAND. We have met with them and he has not committed to anything but he knows our position.

Senator ABDNOR. We would like to hear his views on the past proposal.

Mr. GARTLAND. The corps' proposal goes into deep waters a little longer. It places a baffle breakwater around pier 45 which we don't think is necessary because pier 45 may be developed by the private sector.

We would expect that if that is so, they would protect that pier rather than having the necessity of the Federal Government or the corps having to do it.

Senator ABDNOR. Let's talk about the fishing industry for a moment.

What effect will the two proposals have on the fishing fleet? Will they have about the same results?

Mr. GARTLAND. I think they would have basically the same results and that they would provide a protective harbor that would be suitable for all of the fish that would be caught and brought into San Francisco.

The corps' proposal, of course, would have a bigger harbor. You'd have more berths. I don't think with the changes that have taken place in fishing in the last 15 years that we need 250 or 300 fishing berths out there.

Senator ABDNOR. Either proposal would mean about the same thing to the fishing industry?

Mr. GARTLAND. I believe it would, Senator.

Senator ABDNOR. What about Fisherman's Wharf?

Mr. GARTLAND. Fisherman's Wharf is the center for landing of fish in the bay area but because of the past damage, the small trollers and the drag boats don't like to lay in there because if you are in there in a storm, you'll suffer severe damage to your vessel.

Senator ABDNOR. This would bring it back again?

Mr. GARTLAND. This would bring it back. It would be one place to bring in the fishing vessels rather than spending millions in five different areas. You'd spend the money in one area instead.

Senator ABDNOR. One last question. The administration proposal had, at one time, provision to begin the Fisherman's Wharf project provided that the non-Federal interests contributed 70 to 75 percent of the project costs. Are they still prepared to volunteer such contributions?

Mr. GARTLAND. Well, at one time, it was going to be approximately 25 percent local and 75 percent Federal on a \$7 million project.

That's somewhere about \$2 million for the city and \$5 million for the United States. We would hope that would be what the breakdown would be in the future.

Senator ABDNOR. Let's see how we come out with the legislation.

Our next witnesses will consist of a panel on port improvements: Walter Abernathy from the Port of Oakland, Melvin Shore from the Port of Sacramento, and Sal Bose from the Port of Richmond.

**STATEMENT OF FRANK C. BOERGER, CONSULTANT TO NORTHERN
CALIFORNIA PORTS AND TERMINALS BUREAU**

Mr. BOERGER. Again, I am prepared to submit a statement for the record. I am the consultant for the Northern California Ports and Terminals Bureau, which we call Norcal. It is a pleasure to appear before this committee today to present testimony on behalf of the members of Norcal who represent the publicly utilized ports of the bay delta area that utilizes the Golden Gate. Norcal is comprised of the public ports of Oakland, Redwood City, Richmond, Sacramento, San Francisco, and Stockton, and the privately owned port of Benetia and Encinal terminals.

These ports have joined together in Norcal on a regional basis in order to promote the use of their facilities for serving northern California in particular and all parts of the United States as well.

Norcal has sponsored several regional studies over the past few years and has cooperated with Federal and State agencies in other studies to determine the future needs of the region. These studies have indicated that a major increase in port throughput capacity will be required in the Norcal region. The baseline forecast shows that we will have a 2½-time increase in throughputs of dry cargo by the end of the century, with the major growth expected to be in container traffic. That is, it is expected that the dry cargo tonnage will increase from about 10 million short tons per year to 25 million tons per year in the year 2000.

As you shall see on your tour this afternoon, the Norcal ports have been making large investments in new facilities and in the modernization of old facilities to provide the means for handling part of the increase in capacity that is going to be required.

These facilities were built by the port themselves with moneys they have raised through their port operations. You may not know the ports in California are not supported on the tax rolls. These facilities are being constructed to handle the world fleet of larger cargo ships that are calling on major ports everywhere.

An important constraint on the ability to accommodate this modern fleet is the depth of water in the channels. Because some of our channels in the Norcal are not sufficiently deep to handle the larger ships, appropriate channel-deepening projects are being considered.

As you know, some of the channel deepening projects are underway, such as the deepening of the Stockton Ship Channel and the John F. Baldwin Channel. Several others are waiting authorization, such as the deepening of the channels for the Port of Oakland, the Port of Richmond, and the channel to the Port of Sacramento.

Some of the other channels, such as the channel to Redwood City, need further study to see whether additional deepening will be necessary. You will hear from some of the port directors regarding these projects as part of the testimony today.

Norcal's position in these matters is that all of these projects should be undertaken in order to provide for access of the ships of the world fleet to the shoreside facilities of the ports and in order to provide for efficient water movements in the bay and delta channels.

It is our belief that the Corps of Engineers has done an accurate job in evaluating the benefits and costs of the projects that have been

recommended. It is also our strong belief that these projects should be authorized and constructed as soon as possible.

Therefore we urge the Congress move forward with this omnibus bill that will provide another important increment to the facilities that are required to meet the needs of the Nation. Thank you.

Senator ABDNOR. Thank you.

Mr. BOERGER. We have representatives of three ports here today. Representing Walter Abernathy is Charles Roberts.

STATEMENT OF CHARLES R. ROBERTS, CHIEF ENGINEER, PORT OF OAKLAND

Mr. ROBERTS. Thank you, Frank. Senator, I really appreciate being here today to testify in front of you. We feel that if we don't have the greatest natural harbor in the world, at least we have the most beautiful one here. There are 11 different ports, each concentrating on its own location and developing its facilities to the maximum extent they can.

Across the bay located on the mainland side, the Port of Oakland has made optimum use of its location and natural setting. It is served by three major railroads, a network of six major highways, 600 trucking companies and is port of call for some 47 shipping lines.

The Port of Oakland is an independent department of the city of Oakland and, as a nonoperating landlord port, is a totally self-supporting port operation. With the advent of containerized cargo shipping in the 1960's, Oakland commenced a very aggressive port development project specializing in containerized cargos and today is among the largest container handling ports in the world.

In 1982, the Port of Oakland handled over 11 million tons of general cargos—90 percent or 10 million tons of which were containerized cargos.

In 1982, the Port of Oakland accounted for almost 95 percent of all container cargoes passing through the Golden Gate. The historical export orientation of the port has continued with the development of containerization. Oakland is the leading export port on the Pacific coast and is the last port of call for many lines. Over a typical month, over 40 container vessels sail directly from Oakland to overseas destinations.

The Port of Oakland, whose total value of export general cargo in 1982 approximated \$5.3 billion, contributes significantly to the U.S. balance of payments.

We estimate that this port in 1982 generated almost \$300 million in custom revenues and taxes paid to the U.S. Treasury. Adequate channel depths are essential to the port's continued ability to contribute positively to the Nation's economic and financial well-being, as well as to our local community.

As a last port of call, container vessels sailing from Oakland with a wide variety of manufactured and agricultural exports, attempt to load full cargo capacity and with maximum fuel efficiency. By nature, exports from the United States tend to have a higher density than lighter weight, higher cube import cargo. New container ship designs coupled with the desirability of maximum loading, requires that

channel depths of 42 to 43 feet at mean lower low water be provided as an absolute minimum.

To illustrate the evolution of container ship development, as it has progressed over the last 20 years, I would like to point to exhibits 1 to 3. Exhibit 4 illustrates the fuel efficiency achieved with the larger fourth-generation container ships which can deliver a 40-ton equivalent unit across the Pacific using only one-third the amount of fuel consumed by earlier vessels.

The Port of Oakland terminal facilities are served by two major Federal channels—the outer harbor channel and the inner harbor channel—both of which are now at 35 feet deep.

I am here speaking in support of your bill S. 947, and would like to direct my remaining remarks to the Oakland outer harbor area. The Oakland outer harbor channel is the main waterway to our outer harbor terminal, Seventh Street terminal, and the Army military ocean terminal. The Federal project will also include deepening and widening the entrance by our channel which also serves the Naval Supply Center. Almost 600 acres of Oakland's main terminal area are tributaries to this channel. Going back a minute, the first container ships were T-2's and they were 450 feet long and actually a conversion of cargo ships.

The T-2's were about 630 feet long. The third generation, which are the C-4's and these over here probably are in use right now to the maximum extent, about 700 feet long.

The D-9's are diesel and run from 800 to 900 feet. The beam is shown here; the first-generation beams are 76 feet. These beams are about 105 feet. That's so it can go through the Panama Canal and because of our container cranes; they can't reach out any farther than that. That's about the way they are going.

So what's happened over the generations, they have gone deeper. The first two generations were about 30 feet. The present generation is about 33 feet.

The new generation of ship is 38, 39 feet deep.

Senator ABDNOR. That will take any ship that size?

Mr. ROBERTS. Forty-two feet will take it. You are under-keel clearance in the bay area is about 4 feet. That will take it. We have soft bottoms here in most places.

Now what those ships did as they got deeper and longer, they started carrying more cargo. A FEU is a 30-foot equivalent unit container; the first container ships both carried about 1,000 of those.

The present ships carry about 2,000 TEU's.

The new container ships, the fourth generation, carry about 3,000 20-foot container units. Now why is that done and why is that important?

I think my next graph is this one. The first-generation ship, what we've done is we have computed an average distance and speed in a voyage across the Pacific. How much did it take to take a FEU, which is a 40-foot container, across the Pacific? We have computed that it took 24.6 barrels per FEU for the first-generation ships.

Now the fourth generation of ships we are going into, the deeper generation of ships can do that same trip for about 8.3 barrels of fuel per FEU.

We think that's significant and it's a great saving for us. The U.S. steamship lines can get their cargo over and back at a great saving in fuel.

Now Senator, since I'm here to talk about our project and support your bill which includes—

Senator ABDNOR. Excuse me. Do you have any present-day figures relative to what it was?

Mr. ROBERTS. That's the present day. The fourth generation are the ships coming online right now, APL.

Senator ABDNOR. This is the fourth generation?

Mr. ROBERTS. Yes.

Senator ABDNOR. What's the third?

Mr. ROBERTS. The third would be about 14 gallons. In other words, by going to 2,000, you can go down a third, is what it amounts to. So, if you take the C-4's, they cut that in half, approximately.

Senator ABDNOR. If you have the footage, how long will it be before we see things like that?

Mr. ROBERTS. We'll see it within the next couple of years. They are coming right now.

The APL has got the Lincoln calling here. She's 38 foot and she's 940-foot long.

Senator ABDNOR. They can afford it, I guess?

Mr. ROBERTS. Yes, sir. In the next 2 years, we'll be in the 30-foot range with the majority of our ships.

Senator ABDNOR. I introduced a bill last year that never got out of the committee, but all the port people started screaming and yelling like I was going to kill them.

It was a minor cost, I felt, in relation to the total cargo tonnage, and now that I see what you say, they were really getting a bargain.

Mr. ROBERTS. Well, the bargain they were getting is because we live on our income. That's our problem and we have got to maintain our own facilities.

We are already dredged to 42 foot up to the dock. The Federal Government has spent about \$270 million on our channels. You made \$300 million in income last year so we need some support so we are willing to support you on that.

Senator ABDNOR. It didn't seem to me that 7 cents a ton was a significant fee for a deeper port.

Mr. ROBERTS. That 7 cents a ton, which was maintenance, not new construction. We are talking about a \$41 million project. We are willing to work with this, but all at once, you are going to throw all that additional funding at us and somewhere it's got to come from that additional funding.

We'll argue with the administration, as I say. Right now, the percentage that you are making on customs from the Port of Oakland is about 100 percent per year over the last 75 years.

We realize we would go to some sort of cost sharing but it has to be worked out so it comes into our economic picture too.

Senator ABDNOR. I'm glad you feel that way because that's the only way we'll get a bill out of it.

Mr. ROBERTS. I agree.

Senator ABDNOR. \$189 billion in the red—do you think we'll rob that Treasury at this point?

Mr. ROBERTS. We're not robbing the Treasury. This is money into the Treasury.

Senator ABDNOR. Everybody tells us the same thing. How can they justify this on every program we've got?

I am sitting here on the Appropriations Committee trying to figure out where the dollars will come from.

Let me ask you something. We did talk about these. Do you prefer the tonnage fees or the ad valorem?

Mr. ROBERTS. No ad valorem at all. It's got to be tonnage.

Senator ABDNOR. That's what I need to know.

Mr. ROBERTS. For instance, let's talk about the gate out here. We maintain a 55-foot channel over the gate. What are you going to do? Put a ticket agent out there for everybody who comes in through the gate?

The heaviest tonnage does not go through the port. It's a complicated system and I don't know how you'd administer it.

Senator ABDNOR. All right.

Mr. ROBERTS. Let me make another point. You said we are an export port. We have very high valued cargo going out of there.

If you pay ad valorem, that 95 percent will pay for about 95 percent of the dredging. That's another problem that we have.

I'd rather talk about that than this project. This project consists of dredging this outer harbor. We have two channels, the outer and the inner harbor.

The outer harbor and the study done by the corps in 1977 said that this harbor should be dredged to 42 feet. We should straighten out the dogleg in it and make a new turning basin.

That's the project that we are supporting today. That project supports our Seventh Street terminal and the Oakland Army terminal. The harbor and also since you have to dredge across the bar, the Navy Supply Center.

Seventy-five percent of our major cargo is in that outer harbor.

In other words, those containers, about 70 million of that, is in the outer harbor. That outer harbor supports Matson navigation and Sea-Land, two of the major U.S. shippers which are in the outer harbor. We very much feel we need that dredging. Any other questions? Well, that's all I have. We support your bill.

Senator ABDNOR. Do you recognize there is going to be some kind of a user's fee? Let me ask you this. How much are you prepared to contribute to the project? Any authority on that? I suppose the less the better.

Mr. ROBERTS. Our negotiating position right now is the Roe bill, a 100 percent down to 45 foot.

Senator ABDNOR. That sounds great. Thank you.

Mr. ROBERTS. I said that's our open negotiating position.

Senator ABDNOR. That's a 100-percent Federal?

Mr. ROBERTS. Down to 45 foot. Our next speaker here will be Melvin Shore, from the Port of Sacramento.

[Attachments to Mr. Robert's statement follow:]

CONTAINERSHIP LENGTHS

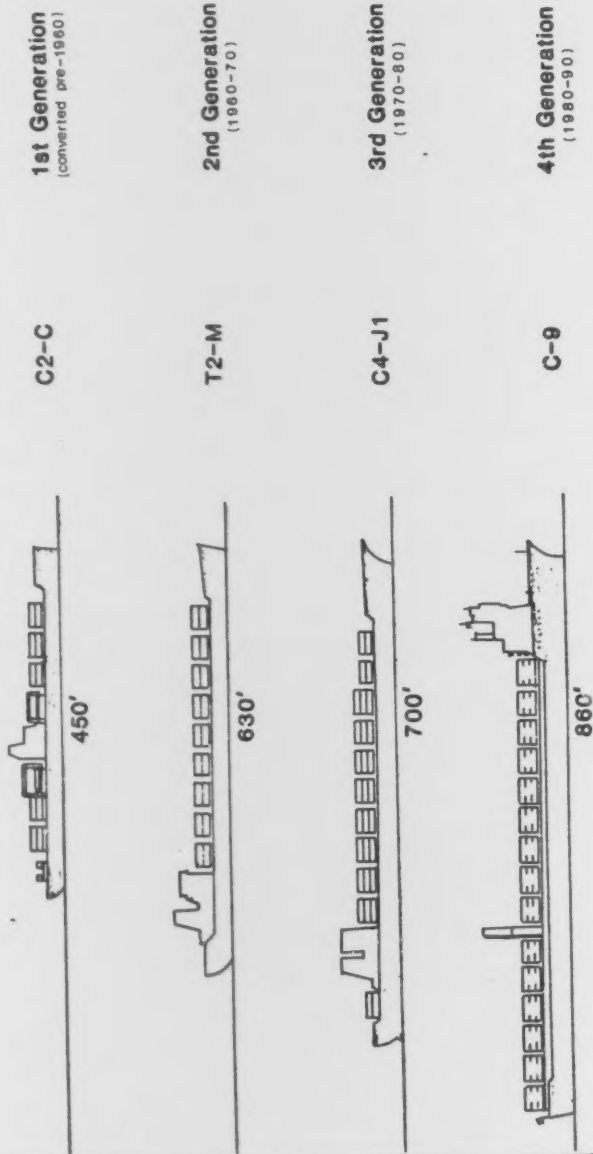


EXHIBIT I

CONTAINERSHIP BEAM SIZE & DRAFT

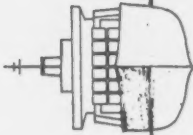
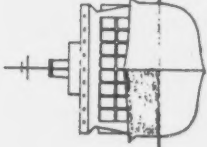
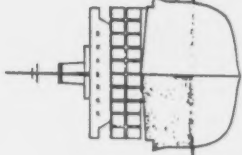
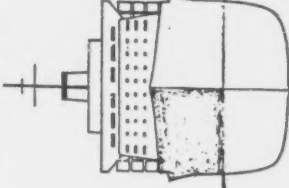
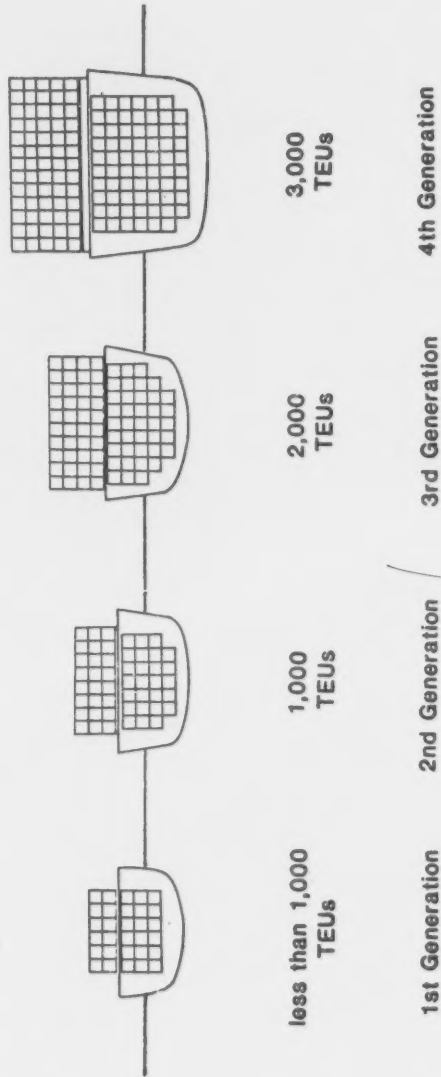
	1st Generation	2nd Generation	3rd Generation	4th Generation
				
BEAM	76'	90'	90'	105'
MAXIMUM DRAFT	less than 30'	30'	33'	39'

EXHIBIT II

CONTAINER CAPACITY



FUEL EFFICIENCY

ASSUMPTIONS

- o 20 KNOT SPEED
- o 32 SEA DAYS
- o 42 DAY VOYAGE
- o 8.6 VOYAGES PER YEAR

1st GENERATION VESSEL

775 BBL PER DAY
8,660 FEU PER VOYAGE

24.6 BBLs/FEU

4th GENERATION VESSEL

690 BBL PER DAY
19,265 FEU PER VOYAGE

8.3 BBLs/FEU

STATEMENT OF MELVIN SHORE, PORT OF SACRAMENTO

Mr. SHORE. My name is Melvin Shore, from the Port of Sacramento. I would like to commend you and your staff for taking time from your supposed vacation to conduct these hearings.

I think it bespeaks your dedication to the efforts in connection with the water projects and I want you to know that we appreciate it.

Also I am heartened by your comments hoping that you see an authorization bill coming out of your committee this year.

I think the time has long past, as you have pointed out, and there hasn't been one for all too long.

I am here today to speak particularly about the deepening of the Sacramento channel by 5 feet.

We are pleased to see that you had it included in the authorization bill No. 947 and note that you now have S. 1739 without any navigation projects and we hope to be included in your new authorization project.

This morning, you will be around the bay area and I wanted to call your attention to the fact that Sacramento is a different kind of port that you will see. You're going to see containerized cargo primarily handled in the ports down here in the lower bay area.

You won't have time in your schedule to visit Sacramento to see a bulk port operation. It, too, is an essential part of the entire program of having cargo for ports of this country.

Sacramento Port opened in 1963 amid considerable fanfare and proceeded to get involved in the handling of cargos following that opening.

The Corps of Engineers in 1955 indicated that, on the average, they saw us handling 853,000 tons per year over the economic 50-year life.

Since that time, we have reached the peak of 325 million tons in 1 year or a projected gross figure that would not have been obtained until the year 2060.

That bespeaks the success that this port has enjoyed and also in the same vein, that Mr. Roberts was speaking about. This port is primarily export and is contributing heavily to the balance of payments, a problem which I know you and your committee and the entire Congress is well aware of.

The need for deepening is well documented in this study by the Corps of Engineers which sets forth their recommendations and is prepared to come forward to Congress as soon as the administration sees fit to send it forward.

I would also point out to you that the benefit-cost ratio is 2.4 which you will recognize as being exceedingly good.

I would also point out to you, Mr. Chairman, that the Federal Government at the present time has a little over \$40 million invested in this project. I would also point out to you that the local people have approximately \$40 million invested in the project.

I think that's a key point that has to be made and is too frequently forgotten. There's much talk about cost sharing but let's point out that the project encompasses the facilities that we provide along with the channel that the Federal Government provides.

We already have a 50-50 cost-sharing arrangement. As a matter of fact, the figures of the Corps of Engineers being used for deepening of this project include a contingency item, and the model at Sausalito indicates that this will not be necessary. If you remove that \$12 million from the cost estimates, the port would be contributing some 21 percent of the cost of the entire project.

I underscore the fact we are not talking about this in the normal sense that people in Congress and others in the administration look at it. We look at only the Federal share and they want some more. The Federal share is valueless without the facilities and the other participation people putting in. We already have 21 percent participation expected by this document right here in front of us.

I think that the key point that I would leave you with is that this project has grown and can continue to grow provided we have the deeper water. The ships are getting larger. We cannot expect to continue to grow and make our contribution to the benefit of the United States without having this deeper water.

Finally, Senator, I fully recognize the position you and your committee have facing you all the time of the need to expend funds.

I would implore that you look upon your investment in the port industry as just that, an investment as opposed to an expense. Any businessman will tell you that when times are rough, you don't cut investments—you cut expenses. If you cut investments, you are depriving this country of the growth it needs.

I realize all projects can make that case but I don't think they can make it quite in the same way that the ports can. In the international trade and customs revenues that are generated, the projects that are afforded through the military when necessary, all those are things that the port industry provides. We think it should be looked at differently than the rest of the projects, all of which are extremely worthy no doubt but I don't think the Government is prepared to do without the ports of this country.

I appreciate your time and, again, I appreciate your coming. Thank you.

Senator ABDNOR. Thank you, Mr. Shore. How deep are you going to go, 42 feet?

Mr. SHORE. No, sir. We are presently at 30 feet and we are trying to get to 35.

Senator ABDNOR. Let me ask you this, concerning fees, the tonnage versus the ad valorem, would you like to make a comment on the record?

Mr. SHORE. Yes, sir. I can speak very clearly for the record. You heard Mr. Roberts say it had to be tonnage and nothing but tonnage. I would have to say just the opposite.

There is no way on God's green earth that a ton of grain can afford to pay the same amount of tonnage as a ton of TV sets.

I think therefore clearly what you see is a division in the industry. I think the answer is going to be a political one and we have to beseech you to come up with that. I think I can recommend this for your consideration. The combination of the two is the kind of thing that we use in our tariffs all the time.

It's obtainable, something that we can do. Our charges don't begin to make charges on the basis of tonnage alone. They are based on salary and you have to recognize the ability of the cargo to pay.

There's no way that you can look at tonnage alone. I understand the problems with ad valorem very well. I think there's a way to meld the two together.

Senator ABDNOR. How?

Mr. SHORE. By doing it on tonnage but grouping in groups based upon value.

For example, you could have a charge—this is a complicated subject—but you could have a charge for all grain based on tonnage but recognizing then that grain is a considerably lower value, you could have a charge based on tonnage at a higher value.

To merely put a cap over the top could deprive you of the income you are seeking, so a cap is not the answer. I recognize that was in your bill before but I can't support you on a cap. I think you are hurting yourself.

I think this other approach of grouping has a lot more potential.

Senator ABDNOR. We have got to figure out some kind of a value here. Mr. Roberts, do you have a comment here?

Mr. ROBERTS. I think Mel and I agree on the problem but it's a very complicated study to determine if there's a way to do it ad valorem. We don't think it will work. It's so complicated.

We'd be glad to show you some of that information. This runs back to the fact that it cost as much to dredge for 1 ton of wheat as it does for 1 ton of cargo. We think the cost would have to go that way.

We do agree that if there could be some simple way so that there would be a certain cost on the lower value and a certain cost on the higher value where you only split once, you might be able to do it.

Mr. SHORE. While it may be true, it may be true that a grain ship does not require it also. I don't think your committee wants to shut off the export of grain from this country.

Senator ABDNOR. I sure don't.

Mr. SHORE. I didn't think you did. I didn't realize what I was saying but you certainly don't. To treat it the same as a ton of TV sets, you absolutely would turn off the export of grain from this country.

Senator ABDNOR. You have three railroads coming into Sacramento; is that what you told me?

Mr. ROBERTS. We do, sir. We have the Union and the Southern Pacific right up behind us and the Santa Fe nearby.

Mr. SHORE. We have both the Union Pacific and the Western Pacific, which is part of the Union Pacific now as well as the Southern Pacific.

Senator ABDNOR. You can see the interesting challenge this committee faces.

Mr. SHORE. As I indicated earlier, I think clearly what is needed now is a political decision since nobody can get together. I sat in your hearing and heard the six steamship types testify to seven different approaches to the problem. I think we have to call upon your good offices to seek a solution.

Senator ABDNOR. We may be talking to you about that. All right. Go ahead, Mr. Bose.

Mr. BOSE. I think it might be better if you allowed George Miller to go ahead.

Senator ABDNOR. It's a real pleasure to have you here, George.

**STATEMENT OF HON. GEORGE MILLER, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF CALIFORNIA**

Congressman MILLER. I want to thank the committee and yourself for the opportunity to appear at this hearing and on behalf of certainly the entire bay area and thank you for making this committee available to the citizens of the bay area to give you some input as you consider marking up some of these public works projects.

My sole purpose in testifying is to alert you to the importance of authorizing new construction at the Richmond Harbor. I cannot stress to you too strongly the significance of the Richmond Harbor improvement program to the economy of Contra Costa County which I represent.

Since coming to Congress, I have worked very closely with city officials and with private industry to provide Federal support to stimulate the economic expansion in jobs in the western part of this community. We have achieved an important goal with the assistance of the public works committees in winning the approval of the Hoffman Freeway project after an impasse of two decades.

When completed, this highway will connect the industry of the west county to Richmond and the port to San Francisco and Marin Counties that circle the bay.

The modernization of the Port of Richmond is another vital part of this bay area transportation system.

The key to this port modernization, the project which I request your support on for this morning, is the deepening and widening of the current 35-foot depth authorized in 1957.

Since that time, there have been major changes in the world's merchant fleet. The inner harbor must be deepened to a depth of 41 feet to permit the larger ships to have access to this port.

This deepening project enjoys the strong support of the Corps of Engineers. A report on the proposed deepening of the port has been approved by the District Engineer, the Division Engineer, and the Board of Engineers for Rivers and Harbors, and the Chief of Engineers. That report now is lying before the Secretary of the Army for his final approval. That report illustrates that the deepening of the harbor is a financially sound project.

The estimated annual economic benefits exceed by \$3 million the average annual cost of about \$5 million.

The benefit-cost ratio is 1.5 to 1, a very healthy ratio which clearly establishes the commercial and financial soundness of this project. Mr. Chairman, the Government has played a crucial role in the development and maintenance of the Port of Richmond since the 1950's. In the recently approved 1984 appropriations bill, we approved nearly \$2 million which I have requested the corps also to undertake the construction of the retaining wall breakwater which was severely damaged by storms this past winter.

Following up on this investment, it is now necessary in order to assure the continued cooperation and growth of the modern port facility.

Mr. Chairman, my testimony has indicated the long Federal commitment to this port as well as a substantial local financial investment which is in keeping with this cost-sharing approach to development.

Local industries, including the oil, gypsum, and steel companies, have invested millions of dollars in their own docks and port facilities. The port has also invested \$25 million in a very modern 1,000-foot computerized container loading dock which they hope to expand in the near future to accommodate even more ships.

Earlier this month, the House counterpart to this subcommittee approved my request for an authorization for \$44.4 million for deep dredging in the Richmond inner harbor. I'm requesting that this subcommittee include an identical authorization in your own bill in order to assure that the Port of Richmond continues to serve as one of the most modern and active ports on the west coast.

I appreciate you providing me this time and opportunity to testify before you this morning and would be pleased to respond to any questions which you have or the other members have as a whole.

Senator ABDNOR. Fine. Go ahead, Mr. Bose.

Mr. BOSE. Thank you, Senator. I would also like to thank the Congressman. The Port of Richmond is handling about 20 million tons of cargo, which is the biggest port as far as tonnage is concerned. I would like to give the first opportunity to our honorable mayor who has prepared the testimony on behalf of our port, and if you have got any questions, I'd be more pleased to answer those.

Senator ABDNOR. Mayor, we are happy to have you.

STATEMENT OF THOMAS J. CORCORAN, MAYOR, RICHMOND, CALIFORNIA

Mayor CORCORAN. Thank you, Senator. My name is Tom Corcoran, mayor of the city of Richmond. Rather than just repeat what our good Congressman George Miller has already said, I would like to just make a few points.

One of these things is, construction of the deep-draft navigation will also have a favorable environmental impact on our city.

At present, large-bulk liquid carriers must anchor in the South Bay to discharge and lighter portions of their cargos to barges or smaller tankers, rather, in order to reduce that before entering the Richmond harbor.

Deepening the channel would reduce the number of ships that would be operating because big tankers could come into the bay and discharge.

Also, I'd like to mention the waterways in Richmond, the potential for large volume exports, the existing modern facilities, and the favorable environment of the area have been recognized as an approval given by the Corps of Engineers and the Water Resources Subcommittee of the House Public Works Committee.

The project has also been recognized by inclusion in bill S. 947, the Water Development Resources Act of 1983. I would like to request that your committee approve this deepening of the channel and we have written testimony which we will submit to you. Thank you, Senator.

Senator ABDNOR. Thank you, Mr. Corcoran. Congressman, over in the Senate side we are considering two separate bills, one for the ports and one for everything else.

We are going to be marking up the port bill on September 3, hopefully.

I feel that it's the general feeling and attitude among Congress that it's high time we get moving on this. I don't know if you were here while we were on the subject of ad valorem taxes versus tonnage but we have real problems ahead of us.

Mr. Roberts mentioned 42 feet and you think yours will have to be 45?

Mr. CORCORAN. Senator, that would depend on the condition of the bottom. That would take the same ships—containers and bulk cargo.

Congressman MILLER. Because of refinery activity. What we have clearly seen and what the committee has recognized is that the overwhelming cost and the price of commerce involved because of our inability to keep up with the modernization of ports across the country as well as the west coast as we have tried to excel in exports, you didn't have to look too far from Washington, D.C., to see the backlog of bulk carriers for coal and other commodities.

We have had that same situation because of the channels with the lightening of ships in the South Bay rather than being able to come directly to the port facilities.

It's added cost obviously in the stream of commerce of those products.

Senator ABDNOR. You have heard the discussion. Do you have any proposals to solve the value versus tonnage problem? We'd love to hear from you.

Congressman MILLER. Well, I leave that to those who are most expert in that discussion that's been going on for some time. We've tried to reach an agreement among the large and small ports on the west coast, and we would hope that would be carried forth in the legislation.

But I don't mean to minimize the difficulty that you will have in struggling with that issue.

Senator ABDNOR. I guess all legislation has its problems. Decisions have to be made and somehow Congress always comes through. It's the greatest system in the world, but I wonder at times. In the long run, however, we somehow come up with the answers.

We have differences between the House and the Senate but we get them all resolved. I am very encouraged by comments I have heard from Members who were opposed before and are now saying the time has come.

With your help, we will work together and, hopefully, we'll come up with an equitable plan that takes care of all the people of this country.

Congressman MILLER. We have seen the light after some years in Congress. Thank you very much, Senator.

Mr. CORCORAN. Senator, there have been some group studies made that show that the facilities in the bay area to have containers in the 1990's will have to double. So that means there will be a lot more ships in the bay and in the bay area than we have right now.

Senator ABDNOR. Coal is not a big subject up here, I take it?

Mr. CORCORAN. No.

Senator ABDNOR. Your predictions are closer to actual than some of the other areas we have talked about. I don't think the coal is coming on quite as rapidly here.

Mr. CORCORAN. That was until the economics, I believe, concerning the drop in oil prices and so on.

Senator ABDNOR. Well, I thank you all very much.

Mr. CORCORAN. May I make one other point? That reduction in fuel was done by the steamship lines specifically to keep their expenses about where they were.

In other words, it's costing them as much to run that ship at that eight barrels because of the increased cost and that's the reason they went to that capital improvement. It's not an additional profit on their part.

Senator ABDNOR. I realize that. We will submit a statement from the Port of Redwood City.

Is Robert Langner here? I guess not.

How about Joey Hecht? I guess she's left. I have statements from State Senator Marks and "San Francisco Tomorrow" and without any objection, they will be made a part of the record.

We will now call Brig. Gen. Donald Palladino and Lt. Col. Edward Lee.

STATEMENT OF BRIG. GEN. DONALD PALLADINO, DIVISION ENGINEER, SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS

Brigadier General PALLADINO. Thank you, gentlemen. I am Brig. Gen. Donald Palladino, the Division Engineer of the South Pacific Division, newly assigned.

With me this morning, on my far left, is Col. Edward Lee, who is the San Francisco District Engineer; Mr. Les Tinkham who is our Assistant Chief of Planning, and Ed O'Neill, our Chief of Program Development Office in South Pacific Division.

With your agreement, I will now submit the majority of my statement for the record at the appropriate time.

Senator ABDNOR. I hope you will be able to comment later during your statement on two of the earlier versions of the port proposal versus yours on the Fisherman's Wharf.

Brigadier General PALLADINO. Sir, we'd be happy to respond as best we can to your concerns in that regard. I would like to mention, by way of introduction, that the South Pacific Division civil works boundaries include a considerable area.

This includes the Colorado River Basin, the landlocked great basin, and the area drained by streams which flow into the Pacific Ocean along the coast of California. This immense geographic area is about one-fifth of the total land mass of the contiguous 48 States and includes parts or all of 9 of the Nation's largest States—virtually all of California, Nevada, Utah, Arizona, and parts of Oregon, Idaho, Wyoming, Colorado, and New Mexico.

Before discussing these projects and in response to your expressed interest in California's beach erosion problems, I'd like to briefly summarize our coastal and inland flooding experiences earlier this year which received widespread coverage by the national news media and heightened national interest in corps activities.

Beginning in late January, a series of heavy storms, coupled with unusually high tides, subjected public and private property in California coastal areas to severe damages. Heavy rains also resulted in significant inland flooding in northern California, particularly along the Russian, Eel, and Sacramento Rivers. Runoff from the storms, high tides, and storm surge resulted in record high tide readings in the Sacramento-San Joaquin Delta, with the result that levees protecting many of the delta below sea level islands failed and the islands were inundated. I know, Senator, that you had an opportunity at the beginning of the year to see much of this and it certainly was a rather spectacular incident. We had 15- to 20-foot breakers reaching shore at high tide.

Many homes were totally destroyed and thousands of homes and businesses were damaged with over 4,000 people evacuated from hard-hit areas. From the United States-Mexican border to the Oregon State line, massive waves with tremendous damage potential lashed the coast.

Imperial Beach, Oceanside Beach, Redondo Beach, Surfside Beach, Malibu, Santa Cruz, Stinson Beach, and many others were hard hit.

Coastal structures, such as piers, breakwaters, and shore revetments, were damaged. The awesome force of the storm waves moved massive rocks with ease, and in some areas, homes had to be evacuated because of the danger caused by revetment rock being catapulted through the air.

Total storm damages in California, including inland areas, are estimated to exceed \$700 million.

Damages to coastal areas alone are estimated to have been in excess of \$150 million. In other geographical areas of the South Pacific division, there were also problems. The rapid melting of this year's record snow pack in Utah alone caused an additional \$300 million in damages.

On the plus side, completed and partially completed corps projects throughout my division prevented damages of about \$800 million. I have included a summary statement and a fact sheet in the briefing package covering all 10 projects.

Senator ABDNOR. We'll make that part of the record.

Brigadier General PALLADINO. Fine, sir. The remaining six are all flood control projects. Four in California, and one each in Arizona and New Mexico. We have also there in your package a map of the South Pacific Division on which I've located these 10 sites geographically for your convenience. Five of the six projects represent a total dollar investment of over \$118 million, while the sixth, the Santa Ana River main stem project, represents a total dollar investment of \$1.2 billion all by itself.

I'd like to say, Senator, that although we may be a long way from Washington, we understand from the Secretary that the Federal budget deficit will no longer allow projects to move forward to construction under traditional cost-sharing formulas. This is particularly true for high-cost projects such as that recommended for the Santa Ana River.

While recognizing that new cost sharing for navigation projects is under consideration, since it has not yet been finalized, the fact sheets in your briefing package show no breakdowns between Federal and

non-Federal cost. We are aware that there are simply insufficient Federal funds to support all the needed and justified water projects in traditional ways of past funding.

Based on the results of the Secretary of Army's review of other deep-draft navigation projects, the administration probably will not support such projects without agreed-upon cost sharing between the Congress and the administration.

Senator, the remainder of the remarks deal with specific descriptions of four of the projects, much of which has already been presented to you.

I would be happy, as I indicated earlier, to file the remainder of my report for the record and answer any questions which you or your staff might have.

Senator ABDNOR. I appreciate that, General, and as I said earlier, you mentioned the Santa Ana project. Is that \$1.2 billion?

Brigadier General PALLADINO. That's correct.

Senator ABDNOR. Are you familiar with the compromise proposal?

Brigadier General PALLADINO. The proposal set forth by the corps is the all-river plan which includes a variety of elements.

Earlier in September, it's my understanding the Assistant Secretary will meet with local sponsors and the corps to review the elements of that plan. I would expect the local sponsors to verify or validate their support for the project.

Senator ABDNOR. If it has that support, is it considerably less than the original proposal?

Brigadier General PALLADINO. The project itself, Senator, involves a great many elements, each of which is intended to act in concert to make a comprehensive plan. I am not prepared to break up the specific elements in terms of cost.

Mr. O'Neill has suggested the alternatives are being pursued in any consideration.

Senator ABDNOR. I'm sure we'll have a report and be brought up to date on that. Let's go back to the Fisherman's Wharf and talk about the port's plan versus yours. One, I guess, goes out into deeper water. The original one, I think, was the \$7 million cost figure and yours was \$17 million.

Would these be higher than the \$7 million in today's dollars or is it still running about the same?

Brigadier General PALLADINO. I don't know that I'm fully qualified to answer that. I understand that is their current estimate of cost but I don't have detailed knowledge of that.

Senator ABDNOR. Could you implement the port's plan if it was found feasible? I mean, there's no reason you couldn't take the plan and use that but what is your sentiment toward this project?

Do you think it's feasible or does it lack or does it fall short of what the real need is?

Brigadier General PALLADINO. Senator, I met with Mr. Gartland last week, as you know, and we briefly discussed the elements he has proposed. Our study has been a fairly exhaustive one to come up with parts of the elements which we feel meet those needs.

My cursory view, as he suggested, leads us to believe that, as we get into the final stages, there may be elements where we share data

and information, where we would incorporate their desires. But the basic plan as proposed by the Corps of Engineers, we believe, meets the stated needs and objectives of the project as it originally was intended.

Senator ABDNOR. There seem to be two areas here. One is the fishing fleet and industry. And the other is the historic segment here. So, do you feel the necessity for a larger area for the historic ships? I guess that's why the Park Service would prefer the corps' plan because of the capacity for antiquated ships being far greater, as I understand it; is that correct? I mean, compared to the corps' plan, would it provide for a bigger area for placing the ships?

Brigadier General PALLADINO. I know that our plan does accommodate the historic ships, as we understand it.

I might ask if Colonel Lee could reflect on that question in more depth.

Colonel LEE. Yes. Our plan, of course, takes into account the recreational aspects of the historic ship fleet as do all of our corps' project plans.

I think the port plan, as was mentioned by Mr. Gartland, is more of a stopgap minimum cost measure and understandably addresses those needs most immediate to the port, that being the fishing fleet.

Our calculations show there are real benefits that accrue from a larger area for the historic fleet.

Senator ABDNOR. Elaborate on the benefits, will you?

Colonel LEE. We calculate that in terms of visitor days, and there is a value assigned to that in all our reports which is something that affects the benefit and costs, and in coming up with the optimum project, that takes into account the environment and recreational and navigational aspects. We figure all that in there.

As an example, our plan has a provision for visitors to walk out on the breakwater; the port plan does not.

Senator ABDNOR. Then we are really saying \$10 million or \$8 million difference for that particular reason?

Colonel LEE. No, sir. I think the bottom line, as both General Palladino and Mr. Gartland implied, is that we still have a fair amount of data yet to analyze, come up with before we have the final design.

We are still collecting a little bit of wave and surge data and doing analysis on that. We expect to be able to incorporate that into the final design which won't get underway until the end of this year.

Whatever aspects of the port's design that lessens costs and still optimizes the benefits we are able to incorporate, we most assuredly will.

Senator ABDNOR. When it comes to the authorization, your recommendation is the higher figure and you will cut back if you find it more desirable and feasible to do so?

Colonel LEE. Yes, sir.

Senator ABDNOR. We're not going to find undue pressure because we got an authorization of \$17 million from the local community and the other one being more elaborate? There are Members of Congress who probably prefer the \$17 million project to the \$7 million one. I'm just wondering if you are asking for undue pressure for you and for Congress here—we want to move this along.

I don't want to spook everyone in the room but we have included this under-the-water project. I wonder if you'll get ours caught in a bind. It wouldn't be until next year until you come up with the recommendation; is that right?

Colonel LEE. No, sir. Our schedule shows the design memorandum, as we call it, being finished by about March 1984. Using a schedule which is optimistic but achievable, we figure we could complete the plans and specifications and actually award the contract by the end of fiscal year 1984.

Brigadier General PALLADINO. Senator, let me try to respond to your question from a different perspective, perhaps. We recommend authorization of the project as we have it proposed. There are matters that differ. Again, as a result of my cursory meeting with Mr. Gartland, for example, we propose protection of pier 45.

One of his concepts involves commercial developments on pier 45 which might change that. There's a slight relocation of the actual breakwater itself in shallower water and as other studies are completed and so forth, it may well be that we would find some adjustment to accommodate that.

He has a slightly different entrance arrangement than we do. All of those, in our view, would be minor changes which we feel we could look at as we continue the detail process, but we feel the project, as proposed, should be authorized as stated.

Senator ABDNOR. Thank you, General. I guess from my vantage point, I see the figure \$17 million and \$7 million and I ask myself, are all those extra dollars beneficial?

You have heard all the testimony on the other projects to date. Do you care to add anything to that?

Brigadier General PALLADINO. I believe they were accurate reflections of the status of the projects as we have also described them in the various reports.

Senator ABDNOR. I'd be happy to have your comments on tonnage versus ad valorem but I won't ask them.

Brigadier General PALLADINO. Thank you, Senator.

Senator ABDNOR. How soon could construction start on these various port projects?

Brigadier General PALLADINO. As Colonel Lee indicated with regard to Fisherman's Wharf project, we believe we could start the construction in 1985 with planning activities in the 1984 timeframe.

With regard to Oakland Outer Harbor, 1985—the continuation of the planning and design for that project will be completed in September of this year.

With regard to the Sacramento River project, that's somewhat a function of whether a sill will be necessary. Our studies are not complete although, as you heard, it was suggested that perhaps the early results may not indicate a need for that.

We are not completed in our studies yet. Somewhere in the 1988 or 1989 timeframe would be about right. We'd be prepared for construction on the Sacramento deepwater project, that being a function of whether a sill is or is not necessary.

Senator ABDNOR. That's still in the experimental state?

Brigadier General PALLADINO. We are still conducting the model studies and the tests and the detailed analyses concerning whether that will be required.

Senator ABDNOR. We ran into that in the Port of New Orleans down there. That's a big concern, probably greater even than here. I don't know.

We will try experimenting with that as to the effectiveness of that. You'll have to come up with some answers and I hope that's the one.

Brigadier General PALLADINO. With regard to the Richmond Harbor project, we are ready to start on the design and process and, depending upon availability of funds, 1987 would be a reasonable starting projected construction start time.

Senator ABDNOR. Well, very well. We thank you gentlemen for attending this morning and we have had a fine hearing and have covered a lot of ground. Several people were unable to make it. Their testimony and written statements will be made a part of the record. With that, we stand adjourned. Thank you.

[Whereupon the hearing was adjourned.]

[Statements submitted for the record follow:]

PORT OF
FERRY BUILDING



CITY OF SAN FRANCISCO

DIANNE FEINSTEIN, MAYOR

SAN FRANCISCO

SAN FRANCISCO, CALIFORNIA 94111 • TEL. (415) 391 8000

STATEMENT TO THE UNITED STATES SENATE
SUBCOMMITTEE ON WATER RESOURCES I

Regarding the Authorization of Funds for the San Francisco Breakwater

Presented By
Eugene L. Gartland
President
San Francisco Port Commission

INTRODUCTION

Recognizing the historic, cultural, economic and recreational importance of San Francisco's Fisherman's Wharf, the Subcommittee on Water Resources of the House of Representatives at the request of the City and County of San Francisco, acting through the San Francisco Port Commission, adopted a resolution on May 15, 1966 authorizing a study to determine the advisability of providing harbor protection for light draft vessels.

Ten years following that resolution, the San Francisco District Corps of Engineers prepared a response which concluded that harbor protection in the Fisherman's Wharf area was feasible and necessary for the maintenance of its commercial fishing fleet.

On February 3, 1978, the Chief Engineer of the U.S. Army Corps of Engineers transmitted this report and its findings to the Secretary of the Army for eventual forwarding to Congress for authorization. A Presidential Executive Order required that Water Resources projects be forwarded to the Water Resources Council prior to authorization by Congress. This action effectively ended approximately twelve years of work put in by the federal, state and local interests on a very vital project. It was not until 1980 that Congress finally allowed this project to continue by appropriating new dollars to continue planning and engineering studies. The first efforts will update some of the data collected as part of the 1976 Feasibility Report.

In May of 1982, a Summary of the Corps Feasibility Report was submitted to the Subcommittee on Water Resources of the House of Representatives. That report stated:

"Description of Recommended Plan: The proposed plan consists of a 700-foot concrete baffled wall extending in a northwest direction from the end of the Hyde Street Pier; then a concrete sheet pile wall extending 500 feet in a northeast direction; and a 700-foot concrete sheet pile wall extending to the east to a point north of the end of Pier 45. The last 370 feet of Pier 45 would have a concrete baffled wall also."

"Views of States, Non-Federal Interests and Other Countries:

Locals support project and have restated their position in a letter dated 30 April 1982. Some agencies have expressed concern with regards to water quality and want assurance, via numerical modeling, that no adverse effects will occur."

"Views of Federal and Regional Agencies: No objections voiced. Local agencies support project."

The "Principles and Standards Evaluation" indicated a benefit-cost ratio of 1.3, and the recommended plan maximizes net benefits.

We are here today to ask the Subcommittee on Water Resources I to reaffirm its support once again for this project and similar projects which have faced years of delay and inactivity through the federal bureaucracy.

PROBLEMS AND NEEDS

In the Feasibility Report, the problems and needs of San Francisco's project were properly identified. Although the Fisherman's Wharf area is

part of a densely developed, heavily populated area and possesses a network of piers, wharves and berthing area, the Fisherman's Wharf harbor is essentially unprotected from wave damage. What minimum protection there is has been provided by timber piers in the past and has diminished with the removal of deteriorated sections.

Without adequate protective structures, this commercial fish basin is exposed to wave action from both the open ocean and local storms and is the most vulnerable of small craft harbors in the San Francisco Bay. Waves reaching a height of up to 5.5 feet have created extensive damage to the commercial fishing boats exposed to them. Some 170 berths are provided for the commercial fishing vessels in the Fisherman's Wharf area and these vessels not only serve the needs of the local area but of the region and nation as a whole.

Fish handling at Fisherman's Wharf increased from 3.7 million pounds in 1968 to 16.8 million pounds in 1979, with an increase of about 1 million pounds per year during the past five years.

As a consequence of continuing damage, many commercial fishing boats have been forced to move to more protected harbors away from San Francisco, and in some cases, away from the Bay Area.

The problems and needs identified in the ten years between the first resolution authorizing a study in March of 1976 have not gone away. In fact, they have been compounded. While awaiting federal action, the Port of San Francisco and the fishing industry have become frustrated with the inability to develop protection for this vital area of San Francisco.

SAN FRANCISCO'S COMMERCIAL FISHING INDUSTRY

The undertaking of this first Feasibility Report was with the cooperation of an historic commercial fishing industry of San Francisco. Today this industry

is a center for San Francisco's fresh fish market and is a part of a larger West Coast fishing industry from Alaska to the southern California border. This fishing industry is comprised primarily of privately owned fishing boats, small family-owned operations in processing facilities, and several large seafood companies.

The small family-owned trollers, who homeport along the West Coast between Washington and San Francisco, land rockfish and flatfish as the main species. The West Coast fresh fish market has traditionally been supplied by coastal processing plants located near the fishing grounds, and transportation of groundfish products from plant to market has been by truck and ice containers in refrigerated vans. Air freight is now being used increasingly to shorten the transportation time and has been important in opening new markets as far away as the East Coast.

All port facilities within the West Coast have been found to be crowded, and inadequate port facilities add to the operating cost of trollers, processors, and shippers and have contributed to the economic difficulties of this industry in the past which in turn leads to higher prices once the fish reaches the consumer.

A recent study undertaken by the West Coast Fisheries Development Foundation, the U.S. Department of Commerce, the National Marine Fisheries Service, and the Economic Development Administration has analyzed the fishing industry and public port infrastructure on the West Coast of California. Their final report was published in March of 1982 and was prepared by Kramer, Chin & Mayo, Consultants.

In their Recommendations section, they specifically identified actions that would have the most beneficial impact on the United States commercial

fishing industry's growth on the West Coast.

One of the specific recommendations included: "To provide federal and state support for infrastructure development of ports on the West coast." In San Francisco the need for infrastructure improvements is, first and foremost, a breakwater to protect the commercial fishing industry of San Francisco. In fact, the Port of San Francisco developed plans for the development of additional acreage adjacent to the Fisherman's Wharf breakwater to support a growing commercial fishing market in response to federal policies to expand the nation's fisheries resource within the 200 mile limit.

Commitments have been made at the local level which will allow us to make both local public financing and private sector financing available to make our project a national standard for combining federal, local and private sector participation so that all can gain.

We understand the problems at the federal level with respect to meeting everyone's needs for federal programs and projects. In the future, greater cooperation between the local and federal government may be required in order to develop a partnership in projects that have both local and federal benefits.

Clearly, the San Francisco Fisherman's Wharf project can be identified as one such project. In fact, in the feasibility study completed in 1976, it was pointed out by the U.S. Army Corps of Engineers that the recommended breakwater fulfills the national planning objectives of the National Economic Development and Environmental Quality Acts.

The importance of this project to the commercial fishing industry is, in itself, sufficient to warrant the Congress of the United States to support an authorization and eventual appropriation for its construction. However, this project has further residual benefits to both the local and federal governments with respect to its ultimate construction.

RECREATIONAL FACILITIES

It goes without saying that the Fisherman's Wharf area is world famous for its recreational facilities consisting of museums, parks, shops, restaurants and hotels surrounding the Wharf's commercial fishing activities. Total visitation is in the ten's of millions each year, and if we allow this maritime character to decline, the recreational uses of this area will also be affected.

Recognizing the importance of this area as a recreational complex in 1972, the Congress of the United States established the Golden Gate National Recreation Area adjacent to it. This national recreation area includes the San Francisco Maritime Historic Park located on Hyde Street Pier. Within this historic park, there are five historic vessels on display and under the custody of the federal government and the National Park Service -- the C.A. THAYER, the EUREKA, the HERCULES, the ALMA, and the EPPLETON HALL.

Under existing conditions, wind and wave action have caused costly maintenance for the federal government. Unless action is taken, these major national historic resources may be lost to every person within the country who may have an opportunity to view them.

The development of the San Francisco protective breakwater will therefore not only provide the needed protection to the San Francisco commercial fishing fleet but also to the historic vessels in the San Francisco Maritime Historic Park.

Once again, the joint efforts of the federal and local governments to make this project a success makes this an important project with local, state and national benefits.

REQUEST TO THE UNITED STATES SENATE
SUBCOMMITTEE ON WATER RESOURCES I

Senator James Abdnor
Chairman

As President of the San Francisco Port Commission, it is my pleasure to welcome this subcommittee to the City and County of San Francisco. Senator Abdnor, you and your staff have definitely taken a leadership role in assisting in the construction of various projects for improvements to rivers and harbors throughout the United States.

Your most recent efforts on August 3, 1983 with the intent to introduce Senate Bill 1739 to assist harbors in the United States should be applauded. Your visit to San Francisco shows your interest and support for the fisherman's Wharf area report and breakwater provided you by the U.S. Army Corps of Engineers.

It is interesting to note that while the San Francisco Port Commission has been patiently awaiting federal assistance for this navigational improvement authorized some 16 years ago by the Congress of the United States and estimated by the U.S. Army Corps of Engineers in 1982 at approximately \$15.8 million, the San Francisco Customs District in 1982 alone contributed to the federal government through customs duties an amount in excess of \$500 million.

The San Francisco Port, with its diverse industries from commercial fishing to ship repair and general cargo container handling as well as its vital role in tourism through its commercial recreational activities, is an important economic development component not only to the City and County of San Francisco but to the State and Federal government as well.

We have waited quite a long time in anticipation of federal assistance and action on our project. However, while we have waited, we have not let the

importance of this project be delayed. In fact, in anticipation of action by Congress on authorization and appropriation of our project, the San Francisco Port Commission has already spent \$350,000 for a preliminary engineering report by the Bechtel Corporation. This report would be similar to the U.S. Army Corps of Engineers' design memo which is required under their federal rules and regulations. Further, the San Francisco Port Commission has engaged a geotechnical firm at a cost of \$82,000 to undertake soils testing in the area at the Corps' specifications, which is underway today, and the Port Commission has authorized its staff to undertake final engineering using the Corps' specifications at an additional cost of \$400,000 to insure the City and County of San Francisco and its commercial fishing industry that construction on this vital project can commence prior to July 1, 1984.

All of these actions have been taken with an eye on Congress and its activities and in anticipation of receiving construction authorization and appropriation from the House and Senate.

As you may gather from this information, it is clear that the Port Commission is committed to enhancing our Fisherman's Wharf area. We have committed our own dollars to continue this project and to attempt to meet all the federal, state and local findings stating this vital area is in need of protection. We have put our own design dollars into insuring protection of a federal resource to the Golden Gate National Recreation Area's historic vessels and piers.

A related matter in which we, of course, have a vital interest is the proposed change in cost-sharing being proposed by the Administration. The traditional cost-sharing offered by the Corps of Engineers was approved by the Port Commission by resolution in 1975 (Resolution #75-12) wherein the City and County of San Francisco agreed to provide a cash contribution of 23.3 percent of the

project cost. Based upon our preliminary engineering, that project cost, in our opinion, can be as low as \$7 million. We understand the Administration's views and are willing to consider a different cost-sharing formula when such is enacted into law.

We appear before you today simply to ask your committee and Congress to complement the Port Commission's actions by:

1. Authorizing construction of the Fisherman's Wharf breakwater.
2. Authorizing the U.S. Army Corps of Engineers to accept all of the engineering design work completed by the San Francisco Port Commission as local in-kind service.
3. Promoting early action which will insure that the Corps of Engineers, Golden Gate National Recreation Area and the Port Commission commence construction in 1984 of a breakwater which provides the maximum protection to the harbor and historical ships at the lowest and most cost effective price.
4. Developing federal cost-sharing procedures which recognize needs of commercial fishing ports, including the City and County of San Francisco.

As the Corps of Engineers' report stated in May of 1982, non-federal interest in this project is guaranteed. That interest and support come from the Port Commission, the commercial fishing industry, and the City and County of San Francisco; however, that support is predicated on the beforementioned actions being completed by Congress this year. Without a definite program, specific action and commitments on the part of the federal government, you cannot expect the Port Commission to delay in meeting the needs of an important economic component of the City and County of San Francisco. We urge this Subcommittee to support legislation that will fulfill the requirements of the federal government and those of the City and County of San Francisco.

We also urge the Subcommittee to use its good offices to enable the Corps of Engineers, U.S. Army, to adopt the engineering designs and studies already undertaken by the Port.

WATER RESOURCES SUBCOMMITTEE
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
FIELD HEARING 15 AUGUST 1983
SAN FRANCISCO, CALIFORNIA

TESTIMONY OF:

THOMAS J. CORCORAN, MAYOR
CITY OF RICHMOND, CALIFORNIA

IN SUPPORT OF:

DEEP-DRAFT NAVIGATION IMPROVEMENTS
RICHMOND HARBOR, CALIFORNIA

Testimony:

The City and Port of Richmond request your support of Deep-Draft Navigation Improvements to the Richmond Harbor. These improvements, which will deepen the channels of the Richmond Harbor from 35 foot depth to 41 foot depth, are necessary to fully utilize the existing facilities and the strategic location of the Richmond Harbor.

Because of its location as the West Coast terminus of two trans-continental railroads, Richmond is ideally located as an intermodal transfer point from rail to ship for the export of bulk commodities and containerized cargos. Richmond has land available with deep water frontage and direct rail access on which to develop major terminals for the export of liquid and dry bulk cargos and containerized cargos.

The land for these terminals has been designated for Port Priority Use by the San Francisco Bay Conservation and Development Commission. A key element in the development of additional terminals at the Port of Richmond is the channel deepening project which is now under consideration by your Subcommittee.

The Port of Richmond, using its own financial sources, has constructed a \$37 million containership terminal. This containership terminal, with its computerized handling system, is located on the channel to be deepened. The future expansion and utilization of this Terminal depends upon its being able to serve the next generation of container-ships which will require channels deeper than 35 foot depth.

Many privately-owned terminals are also located on the channel to be deepened. The cargos to and from these terminals and those of the City-owned terminals combine to make Richmond the largest Port on San Francisco Bay in terms of total tonnage of cargo. Because of this high tonnage, the cost to maintain Richmond's channels on a cost per ton basis was determined by the Corps of Engineers to be one of the lowest in the Nation.

Signed: _____

Thomas J. Corcoran

Construction of the Deep-Draft Navigation Improvements will also have a favorable environmental impact. At present, large bulk liquid carriers must anchor in the South Bay to discharge or "lighter" a portion of their cargos to barges in order to reduce draft before entering the Richmond Harbor. Reduced lightering activity will mean less opportunity for atmospheric emissions and oil spills.

The cost efficiency of the waterways of Richmond, the potential for large volume exports, the existing modern facilities, and the favorable environmental effects have been recognized in the approvals previously given this project by the Chief of Engineers and the Water Resources Subcommittee of the House Public Works and Transportation Committee. The project has also been recognized by inclusion in S.947, the "Water Resources Development Act of 1983." I request the further approval of this project by your Subcommittee.

Signed: _____

Thomas J. Corcoran

TESTIMONY OF
BRIGADIER GENERAL DONALD PALLADINO
COMMANDER, SOUTH PACIFIC DIVISION
U.S. ARMY CORPS OF ENGINEERS
BEFORE THE
SENATE WATER RESOURCES SUBCOMMITTEE
SAN FRANCISCO, CA
15 AUGUST 1983

SENATOR ABDNOR AND MEMBERS OF THE COMMITTEE, I AM BRIGADIER GENERAL DONALD PALLADINO. I'M PLEASED TO HAVE THIS OPPORTUNITY TO BRIEF YOU ON TEN PROPOSED PROJECTS UNDER MY JURISDICTION HERE IN THE SOUTH PACIFIC DIVISION. THE SOUTH PACIFIC DIVISION CIVIL WORKS BOUNDARIES INCLUDE THE COLORADO RIVER BASIN, THE LANDLOCKED GREAT BASIN, AND THE AREA DRAINED BY STREAMS WHICH FLOW INTO THE PACIFIC OCEAN ALONG THE COAST OF CALIFORNIA. THIS IMMENSE GEOGRAPHIC AREA, ABOUT 1/5 OF THE TOTAL LAND MASS OF THE CONTIGUOUS 48 STATES, INCLUDES PARTS, OR ALL, OF NINE OF THE NATION'S LARGEST STATES-VIRTUALLY ALL OF CALIFORNIA, NEVADA, UTAH, ARIZONA, AND PARTS OF OREGON, IDAHO, WYOMING, COLORADO, AND NEW MEXICO.

BEFORE DISCUSSING THESE PROJECTS, AND IN RESPONSE TO YOUR EXPRESSED INTEREST IN CALIFORNIA'S BEACH EROSION PROBLEMS, I'D LIKE TO BRIEFLY SUMMARIZE OUR COASTAL AND INLAND FLOODING EXPERIENCES EARLIER THIS YEAR, WHICH RECEIVED WIDESPREAD COVERAGE BY THE NATIONAL NEWS MEDIA AND HEIGHTENED NATIONAL INTEREST IN CORPS' ACTIVITIES.

BEGINNING IN LATE JANUARY, A SERIES OF HEAVY STORMS, COUPLED WITH UNUSUALLY HIGH TIDES, SUBJECTED PUBLIC AND PRIVATE PROPERTY IN CALIFORNIA COASTAL AREAS TO SEVERE DAMAGES. HEAVY RAINS ALSO RESULTED IN SIGNIFICANT INLAND FLOODING IN NORTHERN CALIFORNIA, PARTICULARLY ALONG THE RUSSIAN, EEL, AND SACRAMENTO RIVERS. RUNOFF FROM THE STORMS, HIGH TIDES, AND STORM SURGE RESULTED IN RECORD HIGH TIDE READINGS IN THE SACRAMENTO-SAN JOAQUIN DELTA, WITH THE RESULT THAT LEVEES PROTECTING MANY OF THE DELTA'S BELOW-SEA LEVEL ISLANDS FAILED-AND THE ISLANDS WERE INUNDATED.

THE COASTAL FLOODING WAS PERHAPS THE MOST SPECTACULAR, WITH 15-20 FOOT BREAKERS REACHING SHORE AT HIGH TIDE. MANY HOMES WERE TOTALLY DESTROYED AND THOUSANDS OF HOMES AND BUSINESSES WERE DAMAGED WITH OVER 4000 PEOPLE EVACUATED FROM HARD-HIT AREAS. FROM THE U.S.-MEXICAN BORDER TO THE OREGON STATE LINE MASSIVE WAVES WITH TREMENDOUS DAMAGE POTENTIAL LASHED THE COAST. IMPERIAL BEACH, OCEANSIDE BEACH, REDONDO BEACH, SURFSIDE BEACH, MALIBU, SANTA CRUZ, STINSON BEACH, AND MANY OTHERS WERE HARD HIT. COASTAL STRUCTURES, SUCH AS PIERS, BREAKWATERS, AND SHORE REVETMENTS, WERE DAMAGED. THE AWESOME FORCE OF THE STORM WAVES MOVED MASSIVE ROCKS WITH EASE, AND IN SOME AREAS HOMES HAD TO BE EVACUATED BECAUSE OF THE DANGER CAUSED BY REVETMENT ROCK BEING CATAPULTED THROUGH THE AIR. TOTAL STORM DAMAGES IN CALIFORNIA, INCLUDING INLAND AREAS, ARE ESTIMATED TO EXCEED \$700 MILLION. DAMAGES TO COASTAL AREAS ALONE ARE ESTIMATED TO HAVE BEEN IN EXCESS OF \$150 MILLION. IN OTHER GEOGRAPHICAL AREAS OF THE SOUTH PACIFIC DIVISION THERE WERE ALSO PROBLEMS. THE RAPID MELTING OF THIS YEAR'S RECORD SNOWPACK IN UTAH ALONE CAUSED AN ADDITIONAL \$300 MILLION IN DAMAGES. ON THE PLUS SIDE, COMPLETED AND PARTIALLY COMPLETED CORP'S PROJECTS THROUGHOUT MY DIVISION PREVENTED DAMAGES OF ABOUT \$800 MILLION.

AND NOW, BACK TO THE 10 PROJECTS. FOUR OF THESE DEAL WITH IMPROVEMENTS FOR DEEP-DRAFT NAVIGATION THROUGH THE SAN FRANCISCO BAY SYSTEM. BECAUSE OF YOUR EXPRESSED INTEREST IN DEEP-DRAFT NAVIGATION IMPROVEMENTS, I'LL LIMIT MY PRESENTATION TO ONLY THOSE FOUR PROJECTS, HOWEVER, I HAVE INCLUDED A SUMMARY STATEMENT AND FACT SHEET IN YOUR BRIEFING PACKAGE COVERING ALL TEN PROJECTS. THE REMAINING SIX ARE ALL FLOOD CONTROL PROJECTS: 4 IN CALIFORNIA AND ONE EACH IN ARIZONA AND NEW MEXICO. YOU'LL ALSO NOTE IN YOUR BRIEFING PACKAGE, A MAP OF THE SOUTH PACIFIC DIVISION ON WHICH I'VE LOCATED THESE 10 SITES GEOGRAPHICALLY FOR YOUR CONVENIENCE. FIVE OF THE SIX PROJECTS REPRESENT A TOTAL DOLLAR INVESTMENT OF OVER \$118,000,000 WHILE THE SIXTH, THE SANTA ANA RIVER MAIN STEM PROJECT, REPRESENTS A TOTAL DOLLAR INVESTMENT OF \$1,260,000,000 ALL BY ITSELF!

LET ME JUST SAY HERE THAT ALTHOUGH WE MAY BE A LONG WAY FROM WASHINGTON, WE UNDERSTAND FROM THE SECRETARY THAT THE FEDERAL BUDGET DEFICITS WILL NO LONGER ALLOW PROJECTS TO MOVE FORWARD TO CONSTRUCTION UNDER TRADITIONAL COST SHARING FORMULAS. THIS IS PARTICULARLY TRUE FOR HIGH COST PROJECTS SUCH AS THAT RECOMMENDED FOR THE SANTA ANA RIVER.

WHILE RECOGNIZING THAT NEW COST-SHARING FOR NAVIGATION PROJECTS IS UNDER CONSIDERATION, SINCE IT HAS NOT YET BEEN FINALIZED, THE FACT SHEETS IN YOUR BRIEFING PACKAGE SHOW NO BREAKDOWNS BETWEEN FEDERAL AND NON-FEDERAL COST. WE ARE AWARE THAT THERE ARE SIMPLY INSUFFICIENT FEDERAL FUNDS TO SUPPORT ALL THE NEEDED AND JUSTIFIED WATER PROJECTS IN THE TRADITIONAL WAYS OF PAST FUNDING. BASED ON THE RESULTS OF THE SECRETARY OF ARMY'S REVIEW OF OTHER DEEP DRAFT NAVIGATION PROJECTS, THE ADMINISTRATION PROBABLY WILL NOT SUPPORT SUCH PROJECTS WITHOUT AGREED UPON COST-SHARING BETWEEN THE CONGRESS AND THE ADMINISTRATION.

SENATOR, I'LL NOW COVER IN SOME DETAIL THE 4 NAVIGATION PROJECTS BEGINNING WITH FISHERMAN'S WHARF IN SAN FRANCISCO.

THIS REPORT CONCERNS MODIFICATIONS FOR NAVIGATION AT SAN FRANCISCO HARBOR, CALIFORNIA. THIS REVIEW REPORT RESPONDS TO A HOUSE PUBLIC WORKS COMMITTEE RESOLUTION OF 5 MAY 1966. THE ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS TRANSMITTED THE FINAL REPORT OF THE CHIEF OF ENGINEERS TO THE OFFICE OF MANAGEMENT AND BUDGET ON 8 APRIL 1983.

THE STUDY AREA ENCOMPASSES THE HARBOR AND ADJACENT LAND AREAS BETWEEN THE SAN FRANCISCO MUNICIPAL PIER AND PIER 45 AT THE NORTHERN WATERFRONT OF SAN FRANCISCO JUST EAST OF THE GOLDEN GATE. HISTORICALLY, THE FISHERMAN'S WHARF AREA HAS BEEN THE CENTER OF THE FISHING INDUSTRY IN NORTHERN CALIFORNIA. MANY FISHERMAN HAVE ABANDONED THE HARBOR BECAUSE OF RECURRING BOAT DAMAGE FROM WAVE ACTION IN THE UNPROTECTED HARBOR, AND HARBOR FACILITIES AND ON-SHORE SERVICE AREAS HAVE DETERIORATED. AS A RESULT OF THESE CONDITIONS, THE WHARF AREA HAS DECLINED IN IMPORTANCE AS A BASE FOR THE COMMERCIAL FISHING FLEET.

THE REPORT IDENTIFIES A PRACTICAL AND ECONOMICAL PLAN TO RESTORE THE FISHERMAN'S WHARF AREA AS A CENTER FOR COMMERCIAL FISHING AND TO PRESERVE THE MARITIME CHARACTER OF THE WHARF. THE SELECTED PLAN CONSISTS OF A COMMERCIAL FISHING CRAFT HARBOR TO BE PROTECTED BY A CONCRETE BREAKWATER CONSTRUCTED OF COMBINED BAFFLED AND SOLID SECTIONS. A BAFFLED WALL WOULD EXTEND FOR 700 FEET PARALLEL TO THE HYDE STREET PIER. FROM THE END OF THE BAFFLED WALL, A 1,200 FOOT-LONG SHEET PILE WALL WOULD EXTEND TO THE EAST TOWARD THE EXISTING PIER 45. A 370-FOOT BAFFLED WALL WOULD BE ADJACENT TO PIER 45. THE PLAN INCLUDES CONSTRUCTION OF A WALKWAY FOR PIER FISHING AND SIGHTSEEING ON TOP OF THE BREAKWATER. FLOWS THROUGH THE BAFFLED BREAKWATERS WOULD MAINTAIN WATER CIRCULATION AND WATER QUALITY WITHIN THE HARBOR. NON-FEDERAL INTERESTS WOULD PROVIDE BERTHING AREAS FOR 345 ADDITIONAL FISHING CRAFT. THE NATIONAL PARK SERVICE WOULD RELOCATE FIVE HISTORICAL SHIPS IN THE PROTECTED HARBOR.

THE TOTAL FIRST COST OF THE PROJECT, BASED ON OCTOBER 1982 PRICES, IS \$16,890,000. USING A 50-YEAR PERIOD FOR ECONOMIC ANALYSIS AND AN INTEREST RATE OF 7 7/8 PERCENT, AVERAGE ANNUAL COSTS ARE \$1,489,000 AND AVERAGE ANNUAL BENEFITS ARE \$1,759,000. THE RESULTANT BENEFIT-TO-COST RATIO IS 1.2.

WE HAVE RECEIVED LETTERS ON THE PROPOSED PROJECT FROM THE STATE OF CALIFORNIA, THE DEPARTMENTS OF THE INTERIOR, TRANSPORTATION, COMMERCE, AND HEALTH, EDUCATION AND WELFARE, AND THE ENVIRONMENTAL PROTECTION AGENCY. NO SIGNIFICANT CONCERNS WERE IDENTIFIED.

THE REPORT OF THE CHIEF OF ENGINEERS RECOMMENDS AUTHORIZATION FOR IMPLEMENTATION OF THE FISHERMAN'S WHARF PROJECT. ASSISTANT SECRETARY GIANELLI CONSIDERED THIS PROJECT FOR A NEW CONSTRUCTION START IN FISCAL YEAR 1984, SUBJECT TO ITS AUTHORIZATION BY THE CONGRESS AND TO 100% NON-FEDERAL COST-SHARING FOR NAVIGATION FEATURES: 75% DURING CONSTRUCTION AND 25% TO BE REPAID WITH INTEREST. ALTHOUGH THIS PROJECT WAS NOT INCLUDED IN THE PRESIDENT'S FISCAL YEAR 1984 BUDGET REQUEST, THE PORT OF SAN FRANCISCO HAS NONETHELESS INDICATED A WILLINGNESS TO GO FORWARD WITH COST-SHARING SUBJECT TO CONGRESSIONAL APPROVAL AND AUTHORIZATION.

NEXT, WE'LL GO ACROSS TO THE EASTERN SIDE OF THE BAY TO THE OAKLAND OUTER HARBOR AND RICHMOND HARBOR. FIRST, THE REPORT CONCERNING MODIFICATIONS FOR DEEP-DRAFT NAVIGATION AT OAKLAND OUTER HARBOR, CALIFORNIA. THIS REPORT RESPONDS TO A HOUSE PUBLIC WORKS COMMITTEE RESOLUTION ADOPTED 14 JUNE 1972. THE ASSISTANT SECRETARY OF ARMY FOR CIVIL WORKS TRANSMITTED THE FINAL REPORT OF THE CHIEF OF ENGINEERS TO THE OFFICE OF

MANAGEMENT AND BUDGET ON 4 FEBRUARY 1982, AND IN RESPONSE TO A REQUEST FOR ADDITIONAL INFORMATION, A SUPPLEMENT WAS PROVIDED ON 21 JULY 1983.

OAKLAND OUTER HARBOR IS A SEGMENT OF OAKLAND HARBOR LOCATED ON THE EASTERN SHORE OF THE CENTRAL SAN FRANCISCO BAY JUST SOUTH OF THE SAN FRANCISCO - OAKLAND BAY BRIDGE. THE ENTRANCE CHANNEL IS CURRENTLY AUTHORIZED TO BE MAINTAINED TO A WIDTH OF 800 FEET AND 35 FEET DEEP. EXISTING CHANNEL DEPTHS AT OAKLAND OUTER HARBOR BECAME MARGINAL WHEN SECOND-AND THIRD-GENERATION CONTAINERSHIPS WITH DRAFTS FROM 30-33 FEET WERE BROUGHT INTO USE. VESSEL DELAYS WAITING FOR HIGH TIDES BECAME MORE PRONOUNCED WHEN THESE DEEPER-DRAFT VESSELS MUST OPERATE IN THE 35-FOOT DEEP NAVIGATION CHANNEL. FOURTH-GENERATION CONTAINERSHIPS WITH DRAFTS GREATER THAN 35 FEET WILL EXPERIENCE EVEN LONGER TIDAL DELAYS OR WILL BE UNABLE TO OPERATE IN THE CHANNEL.

THE SELECTED PLAN CONSISTS OF WIDENING AND DEEPENING THE EXISTING CHANNEL TO 42 FEET TO ELIMINATE TIDAL DELAYS, ENABLE BETTER MANEUVERING AND MAKE POSSIBLE LOWER TRANSPORTATION COSTS RESULTING FROM THE USE OF LARGER VESSELS. ONLY VESSELS WITH LOADED DRAFTS OF GREATER THAN 37 FEET WOULD EXPERIENCE TIDAL DELAYS.

THE TOTAL FIRST COST OF THE PROJECT, BASED ON OCTOBER 1982 PRICES, IS \$41,200,000. USING A 50-YEAR PERIOD FOR ECONOMIC ANALYSIS AND AN INTEREST RATE OF 7 7/8 PERCENT, AVERAGE ANNUAL COSTS ARE \$3,680,000 AND AVERAGE ANNUAL BENEFITS ARE \$9,520,000. THE RESULTANT BENEFIT-TO-COST RATIO IS 2.6. THE PORT OF OAKLAND SUPPORTS THE PROJECT.

WE HAVE RECEIVED LETTERS FROM THE STATE OF CALIFORNIA, THE DEPARTMENTS OF COMMERCE, INTERIOR, AND TRANSPORTATION, AND THE ENVIRONMENTAL PROTECTION AGENCY. INTERIOR EXPRESSED CONCERNS ABOUT THE REPORT'S CONSIDERATION OF DREDGED MATERIAL DISPOSAL. THE CHIEF OF ENGINEERS RESPONDED THAT REMAINING CONCERNS WILL BE RESOLVED DURING FUTURE PLANNING AND DESIGN.

THE REPORT OF THE CHIEF OF ENGINEERS RECOMMENDS AUTHORIZATION FOR IMPLEMENTATION OF THE OAKLAND OUTER HARBOR PROJECT.

OUR NEXT REPORT CONCERNS MODIFICATIONS FOR DEEP-DRAFT NAVIGATION AT RICHMOND HARBOR, CALIFORNIA. THE REPORT RESPONDS TO HOUSE PUBLIC WORKS COMMITTEE RESOLUTIONS DATED 19 OCTOBER 1967 and 10 JULY 1968. THE FINAL REPORT OF THE CHIEF OF ENGINEERS WAS FORWARDED TO THE SECRETARY OF THE ARMY ON 24 SEPTEMBER 1982.

RICHMOND HARBOR IS LOCATED ON THE EASTERN SIDE OF SAN FRANCISCO BAY. THE EXISTING PROJECT CONSISTS OF A SERIES OF CHANNELS AND TURNING BASINS WITH DEPTHS RANGING BETWEEN 30 AND 35 FEET. THE OUTER WEST RICHMOND CHANNEL AND LONG WHARF MANEUVERING AREA ARE AUTHORIZED FOR DREDGING TO 45 FEET, AND CONSTRUCTION TO REACH THIS DEPTH IS SCHEDULED TO START NEXT SUMMER. THE EXISTING CHANNELS ARE INADEQUATE AND INEFFICIENT FOR MODERN SHIPPING NEEDS. VESSEL TRAVELING AND MANEUVERING ARE RESTRICTED AND CHANNELS ARE TOO SHALLOW FOR LARGE SHIPS WHICH MUST CURRENTLY AWAIT HIGH TIDE TO NAVIGATE THE HARBOR. THE RESULTANT LONG DELAYS AND GROUNDING HAZARDS IMPAIR EFFICIENT CARGO MOVEMENT. OUR REVIEW INDICATED A NEED FOR WIDER AND DEEPER NAVIGATION CHANNELS FOR VESSEL SAFETY AND EFFICIENT OPERATION.

THE SELECTED PLAN CONSISTS OF DEEPENING TO 41 FEET AND WIDENING THE EXISTING CONNECTING, ENTRANCE, POTRERO REACH AND INNER HARBOR CHANNELS AND TURNING BASINS, AND CONSTRUCTING A NEW TURNING BASIN, WHICH WOULD ALSO BE 41 FEET DEEP. BASED ON OCTOBER 1982 PRICES, THE TOTAL FIRST COST OF THE SELECTED PLAN IS \$55,901,000. USING A 50-YEAR PERIOD FOR ECONOMIC ANALYSIS AND AN INTEREST RATE OF 7 7/8 PERCENT, AVERAGE ANNUAL COSTS ARE \$5,231,000 AND AVERAGE ANNUAL BENEFITS ARE \$7,896,000. THE RESULTANT BENEFIT-TO-COST RATIO IS 1.5. THE CITY OF RICHMOND SUPPORTS THE PROJECT.

WE HAVE RECEIVED LETTERS FROM THE STATE OF CALIFORNIA, THE DEPARTMENTS OF INTERIOR AND TRANSPORTATION, AND THE ENVIRONMENTAL PROTECTION AGENCY. NO SIGNIFICANT CONCERNS WERE IDENTIFIED.

THE REPORT OF THE CHIEF OF ENGINEERS RECOMMENDS AUTHORIZATION FOR IMPLEMENTATION OF THE RICHMOND HARBOR PROJECT.

OUR FINAL DEEP-DRAFT NAVIGATION REPORT CONCERNS MODIFICATION FOR NAVIGATION TO THE PORT OF SACRAMENTO, CALIFORNIA. THIS REVIEW REPORT RESPONDS TO HOUSE PUBLIC WORKS COMMITTEE RESOLUTIONS OF 10 JULY 1968 AND 11 DECEMBER 1969. ASSISTANT SECRETARY GIANELLI TRANSMITTED THE FINAL REPORT OF THE CHIEF OF ENGINEERS TO THE OFFICE OF MANAGEMENT AND BUDGET ON 3 JUNE 1983.

THE STUDY AREA ENCOMPASSES THE EXISTING SUISUN BAY AND SACRAMENTO RIVER NAVIGATION CHANNELS FROM NEW YORK SLOUGH TO THE PORT OF SACRAMENTO. SINCE THE EXISTING CHANNEL WAS COMPLETED IN 1963, TONNAGES ON THE WATERWAY HAVE STEADILY INCREASED DUE TO INCREASED AGRICULTURAL PRODUCTIVITY IN NORTHERN AND CENTRAL CALIFORNIA AND INCREASED DEMAND FOR REGIONAL AGRICULTURAL AND FOREST PRODUCTS. THE EXISTING CHANNELS ARE NOW INADEQUATE TO EFFICIENTLY ACCOMMODATE VESSELS THAT USE THE WATERWAY, THUS CAUSING TRANSPORTATION INEFFICIENCIES AND UNSAFE CONDITIONS.

THE RECOMMENDED PLAN PROVIDES FOR DEEPENING THE SUISUN BAY AND SACRAMENTO RIVER DEEP WATER SHIP CHANNELS, FROM NEW YORK SLOUGH TO THE PORT OF SACRAMENTO, FROM THE EXISTING 30 FEET TO 35 FEET. THE CHANNEL WOULD BE WIDENED AS NECESSARY TO MAINTAIN NAVIGATION SAFETY. THE PLAN ALSO INCLUDES CONSTRUCTION OF A SUBMERGED SILL OR OTHER ALTERNATIVE TO MITIGATE SALINITY INTRUSION IF TESTING SHOWS THIS TO BE NECESSARY, DEVELOPMENT OF 45 ACRES OF WETLAND HABITAT AND 156 ACRES OF UPLAND HABITAT AS WILDLIFE MITIGATION, AND RECREATION FACILITIES.

THE TOTAL FIRST COST OF THE PROJECT, BASED ON OCTOBER 1982 PRICES, IS \$95,200,000. USING A 50-YEAR PERIOD FOR ECONOMIC ANALYSIS AND AN INTEREST RATE OF 7 7/8 PERCENT, AVERAGE ANNUAL COSTS ARE \$9,200,000 AND AVERAGE ANNUAL BENEFITS ARE \$21,400,000. THE RESULTANT BENEFIT-TO-COST RATIO IS 2.3. THE PORT OF SACRAMENTO AND THE SOLANO COUNTY BOARD OF SUPERVISORS SUPPORT THE PROJECT.

WE HAVE RECEIVED LETTERS ON THE PROPOSED PROJECT FROM THE STATE OF CALIFORNIA, THE DEPARTMENTS OF THE INTERIOR, AGRICULTURE AND COMMERCE, THE COAST GUARD, AND THE ENVIRONMENTAL PROTECTION AGENCY. WHILE SEVERAL CONCERNS WERE EXPRESSED ABOUT THE POSSIBILITY OF FURTHER SALINITY INTRUSION INTO THE BAY-DELTA SYSTEM DUE TO THE PROPOSED LARGER CHANNEL, FEASIBILITY LEVEL INVESTIGATIONS INDICATED THAT THIS IS NOT EXPECTED TO OCCUR. ADDITIONAL TESTING, WHICH IS SUPPORTED BY THE CONCERNED AGENCIES, WILL BE CONDUCTED DURING FUTURE PLANNING AND DESIGN.

THE REPORT OF THE CHIEF OF ENGINEERS RECOMMENDS AUTHORIZATION FOR IMPLEMENTATION OF MODIFICATIONS TO THE SACRAMENTO RIVER DEEP WATER SHIP CHANNEL PROJECT.

SENATOR, THIS CONCLUDES MY COVERAGE OF OUR PROPOSED DEEP-DRAFT NAVIGATION PROJECTS IN THE SOUTH PACIFIC DIVISION, IF YOU HAVE ANY QUESTIONS I'D BE HAPPY TO ANSWER THEM FOR YOU AT THIS TIME.

TESTIMONY OF
BRIGADIER GENERAL DONALD PALLADINO
COMMANDER, SOUTH PACIFIC DIVISION
U.S. ARMY CORPS OF ENGINEERS
BEFORE THE
SENATE WATER RESOURCES SUBCOMMITTEE
SAN FRANCISCO, CA
15 AUGUST 1983

Accompanied by:

Colonel Arthur Williams
District Commander, Sacramento

Lt. Colonel Edward Lee
District Commander, San Francisco

Mr. Carl F. Enson
Chief, Planning Division, Los Angeles District

Mr. Lester A. Tinkham
Assistant Chief, Planning Division, South Pacific Division

Mr. Edward O'Neill
Chief, Program Development Office, South Pacific Division

Mr. Walter Day
Assistant Chief, Engineering Division, South Pacific Division

Mr. Robert L. Sloan
Civil Engineer, Planning Division, South Pacific Division

Mr. Larry Felber
Civil Engineer, Planning Division, South Pacific Division

FISHERMAN'S WHARF, SAN FRANCISCO
HARBOR, CALIFORNIA

This report concerns modifications for navigation at San Francisco Harbor, California. This review report responds to a House Public Works Committee resolution of 5 May 1966. The secretary of the Army transmitted the final report of the Chief of Engineers to the Office of Management and Budget on 8 April 1983.

The study area encompasses the harbor and adjacent land areas between the San Francisco Municipal Pier and Pier 45 at the northern waterfront of San Francisco just east of the Golden Gate. Historically, the Fisherman's Wharf area has been the center of the fishing industry in northern California. Many fisherman have abandoned the harbor because of recurring boat damage from wave action in the unprotected harbor, and harbor facilities and on-shore service areas have deteriorated. As a result of these conditions, the Wharf area has declined in importance as a base for the commercial fishing fleet.

The report identifies a practical and economical plan to restore the Fisherman's Wharf area as a center for commercial fishing and to preserve the maritime character of the Wharf. The selected plan consists of a commercial fishing craft harbor to be protected by a concrete breakwater constructed of combined baffled and solid sections. A baffled wall will extend for 700 feet parallel to the Hyde Street Pier. From the end of the baffled wall, a 1,200 foot long sheet pile wall will extend to the east toward the existing Pier 45. A 370-foot baffled wall will be adjacent to Pier 45. The plan includes construction of a walkway for pier fishing and sightseeing on top of the breakwater. Flows through the baffled breakwaters will maintain water circulation and water quality within the harbor. Non-Federal interests will provide berthing areas for 345 additional fishing craft. The National Park Service will relocate five historic ships in the protected harbor.

The total first cost of the project, based on October 1982 prices, is \$16,890,000. Using a 50-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$1,489,000 and average annual benefits are \$1,759,000. The resultant benefit-to-cost ratio is 1.2. The San Francisco Port Commission supports the project.

We have received letters on the proposed project from the State of California, the Departments of the Interior, Transportation, Commerce, and Health, Education and Welfare, and the Environmental Protection Agency. No significant concerns were identified.

The report of the Chief of Engineers recommends authorization for implementation of the Fisherman's Wharf project.

OAKLAND OUTER HARBOR, CALIFORNIA

This report concerns modifications for deep-draft navigation at Oakland Outer Harbor, California. The report responds to a House Public Works Committee resolution adopted 14 June 1972. The Secretary of the Army transmitted the final report of the Chief of Engineers to the Office of Management and Budget on 4 February 1982.

Oakland Outer Harbor is a segment of Oakland Harbor located on the eastern shore of Central San Francisco Bay just south of the San Francisco - Oakland Bay Bridge. The entrance channel is currently authorized to be maintained to a width of 800 feet and 35 feet deep. Existing channel depths at Oakland Outer Harbor became marginal when second and third generation containerships with drafts from 30-33 feet were brought into use. Vessel delays waiting for high tides become more pronounced when these deeper-draft vessels must operate in the 35-foot deep navigation channel. Fourth-generation containerships with drafts than 35 feet will experience even longer tidal delays or will be unable to operate in the channel.

The selected plan consists of widening and deepening the existing channel to 42 feet to eliminate tidal delays, enable better maneuvering and make possible lower transportation costs resulting from the use of larger vessels. Only vessels with loaded drafts of greater than 37 feet would experience tidal delays.

The total first cost of the project, based on October 1982 prices, is \$41,200,000. Using a 50-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$3,680,000 and average annual benefits are \$9,520,000. The resultant benefit-to-cost ratio is 2.6. The Port of Oakland supports the project.

We have received letters from the State of California, the Departments of Commerce, Interior, and Transportation, and the Environmental Protection Agency. Interior expressed concerns about the report's consideration of dredged material disposal. The Chief of Engineers responded that remaining concerns will be resolved during future planning and design.

The report of the Chief of Engineers recommends authorization for implementation of the Oakland Outer Harbor project.



RICHMOND HARBOR

CALIFORNIA

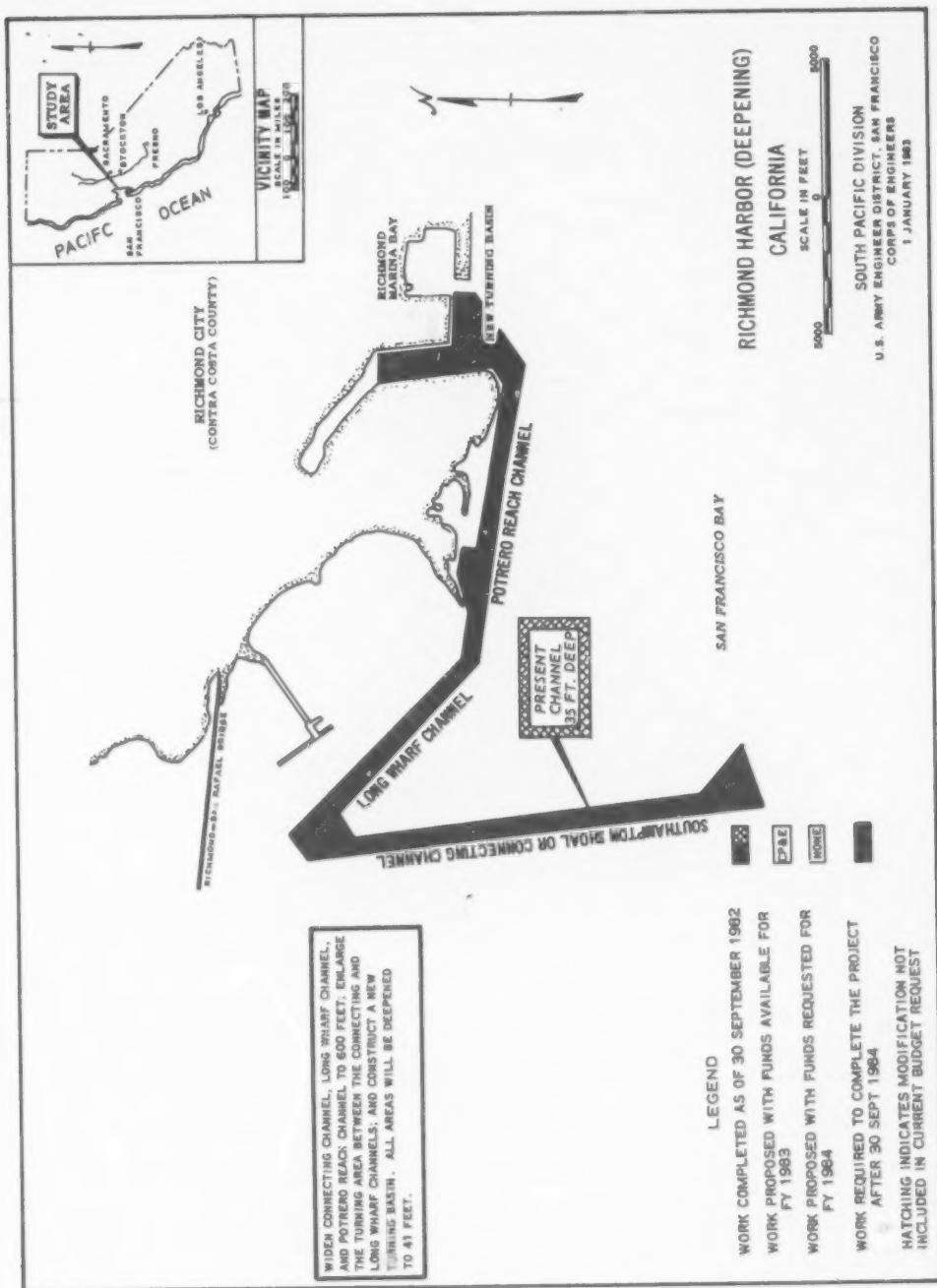
This report concerns modifications for deep-draft navigation at Richmond Harbor, California. The report responds to House Public Works Committee resolutions dated 19 October 1967 and 10 July 1968. The final report of the Chief of Engineers was forwarded to the Secretary of the Army on 24 September 1982.

Richmond Harbor is located on the eastern side of San Francisco Bay. The existing project consists of a series of channels and turning basins with depths ranging between 30 and 35 feet. The outer West Richmond Channel and Long Wharf Maneuvering Area are authorized for dredging to 45 feet, but construction to reach this depth has not been completed. The existing channels are inadequate and inefficient for modern shipping needs. Vessel traveling and maneuvering are restricted and channels are too shallow for large ships which must currently await high tide to navigate the harbor. The resultant long delays and grounding hazards impair efficient cargo movement. Our review indicated a need for wider and deeper navigation channels for vessel safety and efficient operation.

The selected plan consists of deepening to 41 feet and widening the existing connecting, entrance, Potrero Reach and inner harbor channels and turning basins, and constructing a new turning basin, which would also be 41 feet. Based on October 1982 prices, the total first cost of the selected plan is \$55,901,000. Using a 50-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$5,231,000 and average annual benefits are \$7,896,000. The resultant benefit-to-cost ratio is 1.5. The City of Richmond supports the project.

We have received letters from the State of California, the Departments of Interior and Transportation, and the Environmental Protection Agency. No significant concerns were identified.

The report of the Chief of the Engineers recommends authorization for implementation of the Richmond Harbor project.



SACRAMENTO RIVER
DEEP WATER SHIP CHANNEL
CALIFORNIA

This report concerns modification for navigation to the Port of Sacramento, California. This review report responds on House Public Works Committee resolutions of 10 July 1968 and 11 December 1969. The Secretary of the Army transmitted the final report of the Chief of Engineers to the Office of Management and Budget on 3 June 1983.

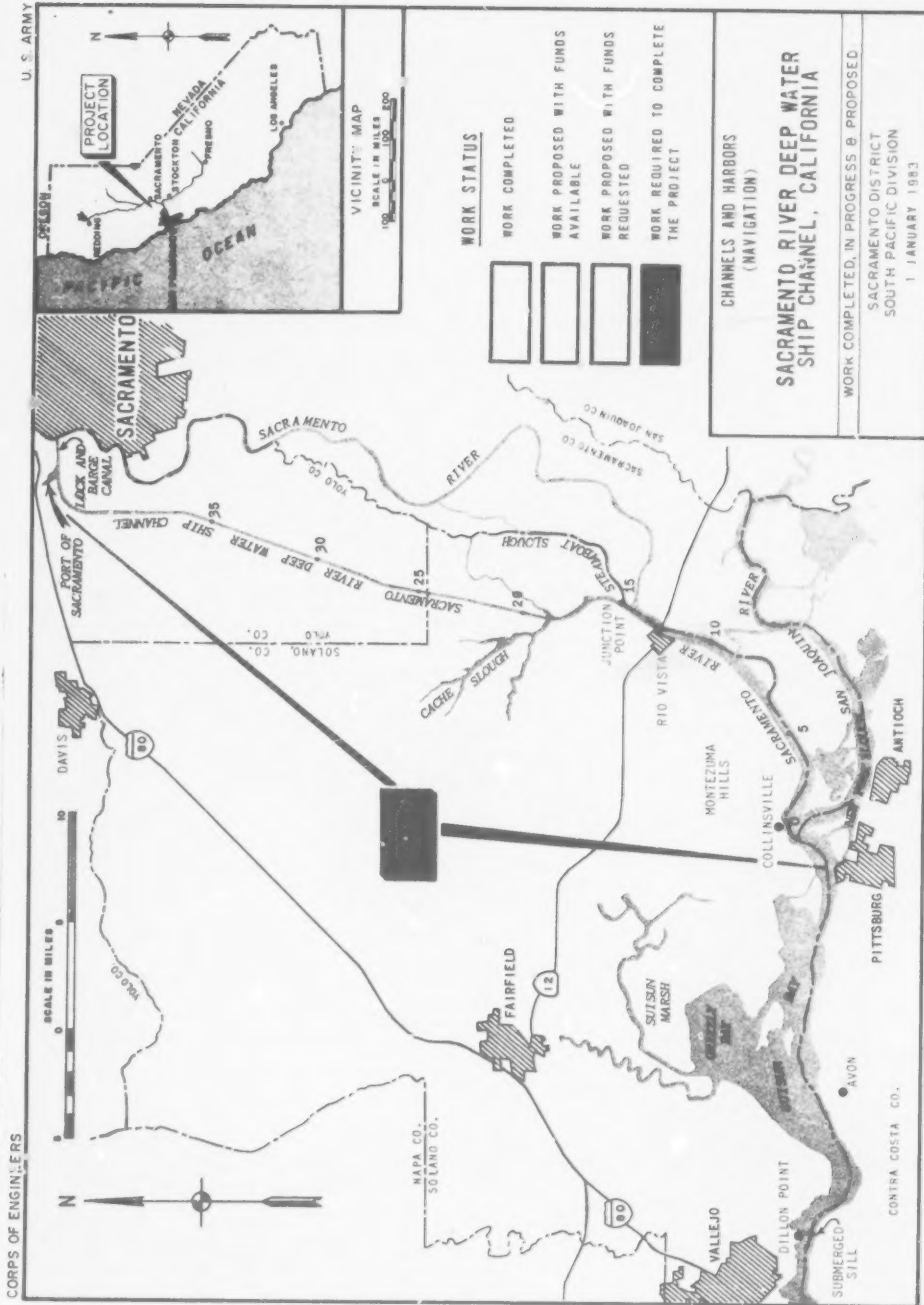
The study area encompasses the existing Suisun Bay and Sacramento River navigation channels from New York Slough to the Port of Sacramento. Since the existing channel was completed in 1963, tonnages on the waterway have steadily increased due to increased agricultural productivity in northern and central California and increased demand for regional agricultural and forest products. The existing channels are now inadequate to efficiently accommodate vessels that use the waterway, thus causing transportation inefficiencies and unsafe conditions.

The recommended plan provides for deepening the Suisun Bay and Sacramento River Deep Water Channels, from New York Slough to the Port of Sacramento, from the existing 30 feet to 35 feet. The channel would be widened as necessary to maintain navigation safety. The plan also includes construction of a submerged sill or other alternative to mitigate salinity intrusion if testing shows this to be necessary, development of 45 acres of wetland habitat and 156 acres of upland habitat as wildlife mitigation, and recreation facilities.

The total first cost of the project, based on October 1982 prices, is \$95,200,000. Using a 50-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$9,200,000 and average annual benefits are \$21,400,000. The resultant benefit-to-cost ratio is 2.3. The Port of Sacramento and the Solano County Board of Supervisors support the project.

We have received letters on the proposed project from the State of California, the Departments of the Interior, Agriculture and Commerce, the Coast Guard, and the Environmental Protection Agency. While several concerns were expressed about the possibility of further salinity intrusion into the Bay-Delta system due to the proposed larger channel, feasibility level investigations indicate that this is not expected to occur. Additional testing, which is supported by the concerned agencies, will be conducted during future planning and design.

The report of the Chief of Engineers recommends authorization for implementation of modifications to the Sacramento River Deep Water Ship Channel project.



CACHE CREEK BASIN
CALIFORNIA

This report concerns improvements to control flooding, erosion and sedimentation in the Cache Creek Basin, California. The report is in response to resolutions of the Committee on Flood Control of the House of Representatives adopted 29 May 1946, and the Committee on Public Works of the House of Representatives, adopted 19 June 1963. The Secretary of the Army transmitted the final report of the Chief of Engineers to the Office of Management and Budget on 6 June 1983.

In the upper Cache Creek Basin, the outlet channel that connects Clear Lake to the Clear Lake Dam is inadequate to discharge large quantities of water that often enter the lake during high-intensity, short-duration rainstorms in winter and spring. This results in flooding of residential, commercial and agricultural properties around the Clear Lake shoreline. In the lower basin, sedimentation in the Cache Creek Settling Basin has accumulated to the point where future sediment, which should be deposited in the settling basin, will continue to deposit in the Yolo Bypass, Sacramento River, downstream navigation channels, and San Francisco Bay.

The recommended plan includes enlarging 3.3 miles of the Clear Lake outlet channel and constructing a 1.1 mile bypass channel in the upper basin; and raising the settling basin levees and other improvements, as well as establishing a 3,600 acre National Wildlife Refuge within the settling basin, in the lower basin. The plan would reduce flood damages in the Clear Lake area, ensure the integrity of the Sacramento River flood control project, reduce downstream dredging requirements, preserve wetlands, and provide additional refuge for migratory birds.

The total first cost of the project, based on October 1982 prices, is \$28,400,000. Using a 100-year period of economic analysis for upper basin improvements, a 50-year period for lower basin improvements, and an interest rate of 7 7/8 percent, average annual costs are \$2,519,000 and average annual benefits are \$4,980,000. The resultant benefit-to-cost ratio is 2.0. The California State Reclamation Board, the Yolo County Board of Supervisors, and the Lake County Flood Control and Water Conservation District support the project.

We have received letters from the State of California, the Departments of the Interior and Agriculture, and the Environmental Protection Agency. The Department of the Interior expressed concern about the project's potential adverse effects on significant archeological resources in the Anderson Marsh at the outlet of Clear Lake. This concern will be resolved prior to implementation.

The report of the Chief of Engineers recommends authorization for implementation of the Cache Creek Basin project.



LITTLE COLORADO RIVER
AT HOLBROOK, ARIZONA

This report concerns modifications for flood damage reduction at Holbrook, Arizona. This review report responds to Section 216 of the Flood Control Act of 1970. The final report of the Chief of Engineers was forwarded to the Secretary of the Army on 8 January 1982.

In 1948 the Corps constructed a levee along the north side of the Little Colorado River to protect the main part of Holbrook from a 100-year design flood. Since that time, sedimentation in the streambed resulting from a number of causes has decreased the capacity of the stream such that it currently conveys only a 14-year flood. If the existing levee were overtopped or breached, most of Holbrook would be inundated.

The recommended plan for prevention of flood damages at Holbrook provides for raising and extending the existing north levee, constructing a south levee and ponding area, reconstructing the existing low-flow channel, clearing of streambank vegetation and related vegetation planting for habitat mitigation, and recreational facilities. The plan will provide standard project flood protection at Holbrook.

The total first cost of the project, based on October 1982 prices, is \$10,279,00. Using a 100-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$806,000 and average annual benefits are \$1,670,000. The resultant benefit-to-cost ratio is 2.1. The Mayor and Common Council of the City of Holbrook support the project.

We have received letters from the State of Arizona, the Departments of the Interior and Agriculture, the Environmental Protection Agency, and the Federal Energy Regulatory Commission. No significant concerns were identified.

The report of the Chief of Engineers recommends authorization for implementation of modifications to the Holbrook project.

PUERCO RIVER AND TRIBUTARIES

GALLUP, NEW MEXICO

This report concerns improvements for flood control on the Puerco River at Gallup, New Mexico. This report responds to a House Public Works Committee resolution on 12 October 1972. The Secretary of the Army transmitted the final report of the Chief of Engineers to the Office of Management and Budget on 3 June 1983.

There are no existing Federal flood control improvements in the project area.

The New Mexico State Highway Department, in conjunction with recent highway construction, has constructed channel and levee improvements along the Puerco River from about Woodrow Drive to U.S. 666. However, western portions of Gallup remain in need of flood control improvements.

The recommended plan consists of reconstruction and realignment of the existing north and south levees, construction of additional auxiliary north and south levees and an inlet structure, removal of a portion of the rock knoll that constricts the floodplain near the airport, purchase of 30 acres for habitat mitigation, and development of recreational facilities. The plan will provide 100-year flood protection to existing development at Gallup.

The total cost of the project, based on October 1982 prices, is \$3,331,000. Using a 100-year period for economic analysis and an interest rate of 7 7/8 percent, average costs are \$277,000 and average annual benefits are \$425,000. The resultant benefit-to-cost ratio is 1.5. The Gallup City Council supports the project.

We have received letters from the State of New Mexico, the Departments of Interior, Housing and Urban Development, Commerce, Agriculture, and the Environmental Protection Agency. No significant concerns were identified.

The report of the Chief of Engineers recommends authorization for implementation of the Puerco River project.

REDBANK AND FANCHER CREEKS, CALIFORNIA

This report concerns improvements for flood control for the Fresno-Clovis Metropolitan Area, California. This report is in response to resolutions of the Committee on Public Works of the House of Representatives adopted 13 June 1956 and 8 May 1964. The final report of the Chief of Engineers was forwarded to the Secretary of the Army on 15 May 1981.

There is a severe threat of flooding in the Fresno County area in and adjacent to the Fresno-Clovis Metropolitan area. Flooding in the area is generally caused by channels with capacities inadequate to carry high flood discharges. Approximately 51,300 acres of public and private development are subject to flooding. Recreational needs include boating, fishing, and picnicking.

The recommended plan includes enlargement of the existing Big Dry Creek Reservoir, including small permanent recreation, construction of a reservoir on Fancher Creek; and small detention basins on Redbank Creek, Pup Creek, and on Alluvial Drain. The plan would provide standard project flood protection on Big Dry and Dog Creeks, 200-year flood protection on Alluvial Drain and Redbank, Fancher and Pup Creeks, and recreation opportunities.

The total first cost of the project, based on October 1982 prices, is \$75,200,000. Using a 100-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$6,560,000 and average annual benefits are \$8,150,000. The resultant benefit-to-cost ratio is 1.2. The Fresno Metropolitan Flood Control District strongly supports the project.

We have received letters from the State of California, the Departments of Interior, Agriculture and Commerce and the Environmental Protection Agency. No significant concerns were identified.

The report of the Chief of Engineers recommends authorization for implementation of the Redbank and Fancher Creeks project.

FISH AND WILDLIFE PROGRAM
SACRAMENTO RIVER BANK PROTECTION PROJECT
FIRST PHASE
CALIFORNIA

This report concerns conservation and development of wildlife habitat in conjunction with the Sacramento River Bank Protection Project, which was authorized by the Flood Control Act of 1960 and the River Basin Monetary Authorization Act of 1974. Preparation of a proposal to modify the project for conservation and development of wildlife is authorized by Section 3(c) of the Fish and Wildlife Coordination Act of 1958. The final report of the Chief of Engineers was forwarded to the Secretary of the Army on 21 September 1981.

The Sacramento River Bank Protection Project was authorized to provide protection against the deterioration of the existing flood control levees, and is being implemented in phases. The First Phase, which includes construction of bank protection works and levee setbacks at critically eroding areas, was completed in November 1974. Implementation of the First Phase resulted in the loss or degradation of about 260 acres of scarce riparian habitat, and indirect reduction of the ecological value of adjacent agriculture lands.

The recommended plan consists of modifying the Sacramento River Bank Protection Project to include acquisition of 260 acres of riverside berms, within limits of the existing levee system, for establishment and maintenance of wildlife habitat to mitigate for habitat affected during construction of the First Phase of the Sacramento River Bank Protection Project.

The total first cost of the plan, based on October 1982 prices, is \$1,321,000. Using a 50-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$100,000. Beneficial effects will result from the conservation of increasingly scarce, significant riparian habitat. The Reclamation Board, California Department of Water Resources and the California Water Commission support the project.

We have received letters from the State of California, the Departments of the Interior, Agriculture and Commerce, and the Environmental Protection Agency. No significant concerns were identified.

The report of the Chief of Engineers recommends authorization for implementation of modifications to the First Phase of the Sacramento River Bank Protection Project to include acquisition of lands as wildlife habitat mitigation.

SANTA ANA RIVER MAIN STEM
INCLUDING SANTIAGO CREEK
PHASE I, CALIFORNIA

This report concerns improvement for prevention of flood damages on the main stem of the Santa Ana River, California. This report responds to Section 109 of the Water Resources Development Act of 1976. The final report of the Chief of Engineers was forwarded to the Secretary of the Army on 20 January 1982.

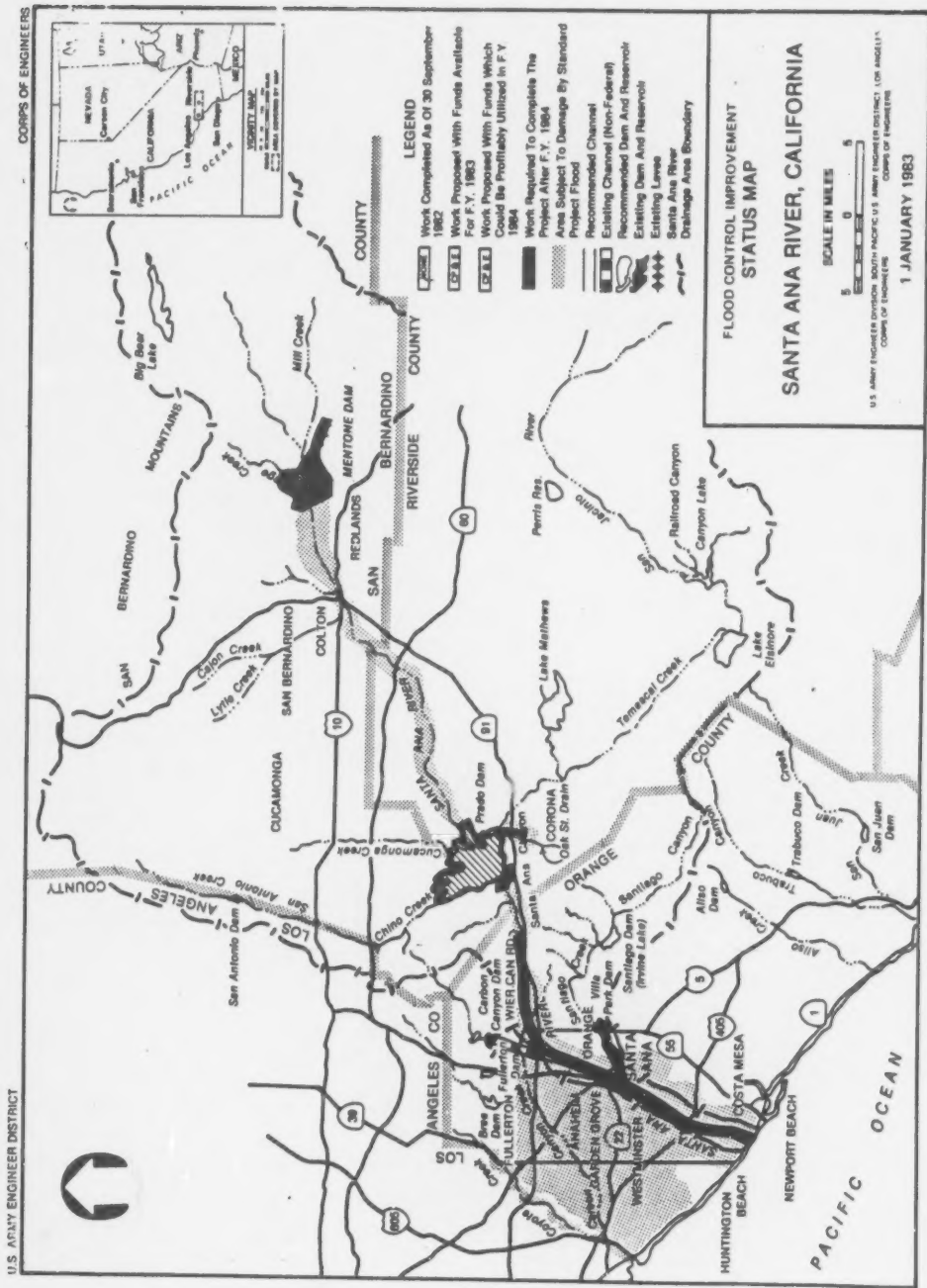
The Santa Ana River Basin is located in the rapidly developing Orange, Riverside, and San Bernardino Counties in Southern California. The basin covers 3,200 square miles and has a population of about 3 million people. The area has experienced numerous major floods in this century, including three within recent years. In 1969, a 40-year frequency flood caused \$85 million in damages. Floods in 1978 and 1980 resulted in \$13 million and \$15 million in damages, respectively. Under current conditions the basin's standard project flood, which is about 330-year frequency flood, would inundate about 117,000 acres and directly affect over 500,000 homes and the 2,000,000 people who now live and work in the flood plain. Direct damages from the standard project flood would total in excess of \$12 billion. With the population projected to reach 3.5 million by the year 2000, the Santa Ana River flood threat is one of the greatest flooding problems in the United States.

The report affirms the All-River Plan, with some modifications, as the best plan for flood control in the Santa Ana River Basin. The All-River Plan provides for construction of Mentone Dam on the upper Santa Ana River; raising the existing Prado Dam 30 feet and the Prado Reservoir acquisition line 10 feet; improving Oak Street Drain; buying the Santa Ana Canyon flood plain lands that would remain subject to flooding after the project is completed; making channel improvements on the lower Santa Ana River between the canyon and the Pacific Ocean; improvements on Santiago Creek; and environmental features that include acquiring 500 acres of juniper habitat near Mentone for mitigation and acquiring 92 acres of marshland habitat near the river's mouth for wildlife preservation and mitigation. Recreational facilities will be developed at all main features. The project will provide protection against the standard project flood, except along Santiago Creek where 100-year protection will be provided. It also provides preservation of ecological and open space values, increased recreational opportunities and incidental water conservation. The All-River Plan is the alternative most acceptable to local interests in the affected three countries.

The total first cost of the project, based on October 1982 prices, is \$1,260,000,000. Using a 100-year period for economic analysis and an interest rate of 7 7/8 percent, average annual costs are \$112,000,000 and average annual benefits are \$201,000,000. The resultant benefit-to-cost ratio is 1.8. The Board of Supervisors of the Orange County Flood Control District, San Bernardino Country, and the Riverside County Flood Control and Water Conservation District support the project.

We have received letters from the State of California, the Departments of the Interior, Agriculture, and Housing and Urban Development, the Environmental Protection Agency, and many regional and local agencies and groups. These interests expressed strong support for the All-River Plan, especially the Oak Street Drain and river mouth marshland features which are recommended for implementation. The concerns of some interests about water conservation are addressed in the Chief's Report.

The report of the Chief of Engineers recommends authorization for implementation of the Santa Ana River project.



STATEMENT BY HONORABLE SALA BURTON

SENATE ENVIRONMENT AND PUBLIC WORKS SUBCOMMITTEE
ON WATER RESOURCES
SENATOR JAMES ABDNOR, CHAIRMAN

SAN FRANCISCO, CALIFORNIA
AUGUST 15, 1983

Mr. Chairman, thank you for the opportunity to submit this statement for the subcommittee's hearing. As you know, the construction of the Fisherman's Wharf breakwater in San Francisco has been a goal of the City for many years. The breakwater will allow San Francisco to attract the fishing vessels which have left the wharf area over the past years because there is little protection from the destructive tides and storms for which the Bay is so well-known.

The fishing industry is important as a business in itself and as a part of the City's attractiveness to tourists. Fisherman's Wharf is known world-wide and services a major part of the San Francisco tourist trade. Without the fishing vessels the wharf loses much of its authenticity and charm. And without the fishing vessels, the restaurants at the wharf do not have the easy access to fresh fish that they do now.

My husband Phillip spent many years working to obtain federal funding for this project and I have continued this effort. I hope that with the help of Senator Abdnor, we can finally begin construction of this long-awaited and much needed project.

MEMBERS

SENATOR ALFRED E. ALQUIST
 SENATOR ROBERT G. BEVERLY
 SENATOR JOHN GARAMENDI
 SENATOR BARRY KEENE
 SENATOR NICHOLAS C. PETRIS
 SENATOR OWEN L. RAINS

California Legislature

Senate Select Committee

ON

Maritime Industry

SENATOR MILTON MARKS
 CHAIRMAN

JOY R. Hecht

CONSULTANT
 ADDRESS ALL COMMUNICATIONS TO:
 SENATE SELECT COMMITTEE ON
 MARITIME INDUSTRY
 ROOM 2043
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STATEMENT OF SENATOR MILTON MARKS

SUPPORTING THE FISHERMAN'S WHARF BREAKWATER

BEFORE THE U.S. SENATE ENVIRONMENTAL & PUBLIC WORKS COMMITTEE
 SUBCOMMITTEE ON WATER RESOURCES

August 15, 1983

As San Francisco's State Senator and Chairman of the California Senate Select Committee on the Maritime Industry, it is a pleasure to welcome this Subcommittee to San Francisco. Senator Abdnor, we appreciate the role you and your Subcommittee play in the construction of projects that have benefitted many harbors throughout the United States.

As a long-time advocate for the construction of the Fisherman's Wharf Breakwater I am here to ask your assistance in completing this project. As you know, our Port Commission already has undertaken special studies so that this vital project, which was first proposed in 1966, can commence prior to July 1, 1984.

Construction of this Breakwater is in keeping with the Port's plan to develop the entire Pier 45 area to provide adequate facilities for a commercial fishing fleet and for protection of the Historic Ships, expanded water-oriented activities and the creation of over 1,000 new jobs.

Once San Francisco was the commercial fishing center for Northern California. However, because of the lack of an adequate breakwater and harbor facilities, the commercial fishing industry has declined over the years.

-more-

Construction of this Breakwater would be consistent with Federal policy to encourage and assist the growth of the commercial fishing industry. It would provide a protected harbor with modern berthing facilities for over 300 additional fishing boats and enable our nation to compete more effectively with other countries in our waters.

We need this Breakwater. We need the support of your committee, Senator Abdnor, and the Congress to complement our Port Commission's actions by:

1. Authorizing construction of the Fisherman's Wharf Breakwater.
2. Authorizing the U.S. Army Corps of Engineers to accept all of the engineering design work completed by the San Francisco Port Commission as local in-kind service.

I urge you to do this as expeditiously as possible. Thank you.



Port of Redwood City

475 Seaport Boulevard
Redwood City, California 94063-2794
(415) 365-1613

STATEMENT TO THE U.S. SENATE WATER RESOURCES SUBCOMMITTEE

BY

FRED J. DI PIETRO
Port Manager
PORT OF REDWOOD CITY,
REDWOOD CITY, CALIFORNIA

HONORABLE JAMES ABDNOR, CHAIRMAN
U.S. SENATE SUBCOMMITTEE ON WATER RESOURCES.

Senator Abdnor, we are pleased to welcome you and members of the United States Senate Subcommittee on Water Resources to the San Francisco Bay Area.

My name is Fred J. Di Pietro, and I have served as Port Manager for the Port of Redwood City for the past ten years. I am also privileged to serve as a member of the steering committee of the United States Port System Advocates, a coalition of 55 small and medium sized ports located throughout the nation.

Needless to say, those of us directly associated with the public port system of the nation have closely monitored the various congressional legislative proposals as concerns the development of a national water resources authorization program.

Our port coalition believes that we are engaged in a partnership between the federal government and local port authorities. As such, that partnership has developed one of the finest port systems in the world, and should be continued. Local port authorities should continue to provide shoreside facilities necessary to world trade navigation and commerce, and the federal government providing the shipping and navigation channels to facilitate vessels of the world fleet. We believe that our port system and navigation channels exist for the benefit of the entire nation, and that our ports contribute substantially to the economic and military security of our country.

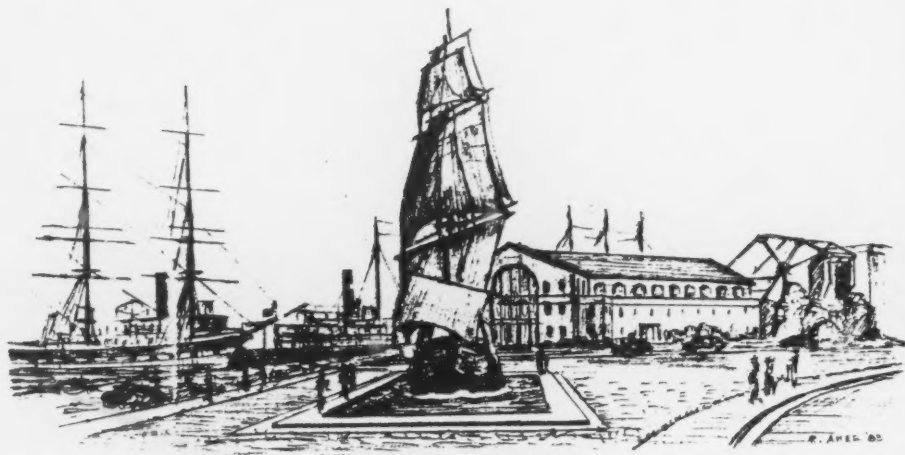
Since U.S. Customs receipts collected at our nation's ports substantially exceed annual dredging costs incurred by the Corps of Engineers, we would prefer that no user fee system be established. Regretfully, it appears that Congress and the Administration will press for a cost recovery system. Our port coalition recognizes the need for port development legislation that would improve the nation's harbors, and alternately, we can support and recommend a system of cost recovery through the application and assessment of uniform user fees.

BOARD OF PORT COMMISSIONERS: GERALD R. CHANDLER RICHARD A. DOOGUE PAUL C. KECKLEY JR. MARQUERITE LEIPZIG ROBERT SPILLERS

PROPOSAL FOR A NATIONAL MARITIME HISTORICAL PARK

ALTERNATIVE LOCATION
FOR
THE NATIONAL MARITIME MUSEUM
AND
HISTORIC SHIP FLEET

CHINA BASIN
SAN FRANCISCO, CALIFORNIA



COMMITTEE FOR A NATIONAL MARITIME HISTORICAL PARK AT SAN FRANCISCO

PROPOSAL FOR LOCATING THE NATIONAL MARITIME MUSEUM
AND HISTORIC SHIPS
AT CHINA BASIN, SAN FRANCISCO

San Francisco's maritime museum and its historic ship fleet are at a crisis in their history. The Hyde Street Pier where the ships are presently berthed has proved to be a near disaster for the ships because of its exposure to seas, surge and wind from the Golden Gate. It is nearly impossible for the public to board the smaller vessels because of that factor, and so they are not permitted to board them.

The Hyde Street Pier is currently slated to be rebuilt and extended for commercial fishing facilities. The attached finger pier for the historic ships would be rebuilt and protected by a breakwater which is expected to cost in the neighborhood of \$7 million in Federal money. The historic ships would then be reberthed near the end of this pier in an environment considerably more hostile to the visiting public and more detrimental to the ships than is experienced at the present time, exposed as the pier is to the direct blast of wind and cold, damp air coming through the Golden Gate. The new pier design restricts the number of ships that can be accommodated to the present number and creates a crowded berth.

The present maritime museum housed in the old Aquatic Park bath house and shared with a Senior Citizen's Center has long ago run out of space. Current plans are to relocate the museum in the Haslett Warehouse adjacent to Aquatic Park. Before the building can be used as a museum it must be completely gutted and rebuilt on the inside, virtually requiring a new, modern fire and earthquake resistant building within an old brick shell. The building and site are not entirely suitable for the maritime museum.

The time is clearly at hand for those who care for our maritime heritage to give very serious thought to alternative solutions for locating the maritime museum and historic ships on a basis that will provide maximum future usefulness to the museum and protection and service to the historic ships and others that may be added to the fleet. Consideration must be given to what this museum and collection could be in relation to a different site, especially in light of future acquisition and expansion of its scope.

The proposal presented here envisions a National Maritime Museum and its historic ship fleet concentrated on the San Francisco waterfront at China Basin. This complex includes provision for a maritime industry and technological park which includes maintenance and repair facilities for the historic ships as well as provision for building replicas of historic ships and boats for demonstration purposes.

Although the maritime museum, the ships, and related assets are now administered by the National Park Service within the Golden Gate National Recreation Area, it is proposed here in addition that this complex be administered as a new, separate entity under the U.S. Department of the Interior with administrators having a maritime background. This is necessary for more effective administration and one that is not competitive with other local and national Park Service priorities. The administration must be such as to encourage civil and industrial participation in the operation and growth of the museum and its related activities.

The China Basin site is located in an area that is associated with San Francisco's early maritime development. It is in an area that is slated by the San Francisco Redevelopment Agency for improvement and development. Land use proposals call for a major park and small boat marina to be built in the vicinity of the site proposed here for the maritime museum. To the west, the Southern Pacific Development Company has extensive plans for its Mission Bay Project, plans which include expansion of Mission Creek adjoining China Basin into a lagoon and water oriented park as a focal point in the development. These areas will see important growth as business and housing move in, and the museum and historic ships could become a significant and exciting attraction in the development plans.

The main museum building would be located on the north side of China Basin between Third Street, the Embarcadero, Berry Street, and the China Basin bulkhead. The building would be designed to be attractive and inspirational and would incorporate provision for future expansion. Appropriately, the architectural style could be the mission motif that was used in the pier bulkhead buildings in that area.

The space allows that the building would provide adequate space for the present maritime museum collection, both that which is now on display and that which is in storage. It also allows for the creation of special new displays and even massive dioramas to illustrate the historic development of San Francisco and the Bay as a port. It allows for new scope in the exhibit of West Coast and Pacific maritime history and for the historical development of ships. It allows for the display of historically important ships, parts and engines coming to light in the city, on these shores, and under the sea.

The museum building would contain a modern reference library, a library already in being as part of the present museum. There would be adequate space for the photographic and record archives already in being and for future acquisitions. There would be a photographic laboratory and a film and lecture theater. In conjunction with the latter, there would be a conference center and that might include a cafeteria and restaurant for visitors and staff. These and the library would be on the upper floor of the museum with a prospect of the bay, waterfront and historic ships.

The museum building would also house the museum and historic ships administration and staff facilities. Either in this building or somewhere in the complex there would be shops for the construction of displays and models, as also a laboratory for the conservation of historical objects.

The building would be surrounded by a landscaped park on the sides and front in which space would be provided for display of ship relics and sculpture suitable to outdoor exhibit. The bulkhead, or south side of the building would face a plaza adjacent to the ships.

Small ships would be berthed adjacent to the museum. The water in this area should be sufficiently quiet that they can be boarded from a float between them and the bulkhead so as to eliminate the problems that arise from the rise and fall of tide. Berthing would be extended to the east toward deeper water by a pier, or mole, to include larger ships in the fleet such as the Liberty Ship, JEREMIAH O'BRIEN.

Additional ship berthing would be provided on the south side of China Basin for boarding by the public or for repair. Repair and maintenance facilities for the ships would be located adjacent to the bulkhead. Included would be facilities for hauling out the smaller ships for regular maintenance or repair. The same facility would permit small historic ships to be recreated for demonstration of the old ways of shipbuilding. For example, there is interest in the nation to recreate one of the famous American clipper ships. That could be done here.

The in-house repair capability for the historic ships is an extremely important aspect of the historic ship fleet. Modern ship repair yards are no longer interested in contracting for work on these ships. The nature of the work is usually uncertain and time consuming. It requires care and historical integrity and should never be done hastily or under pressure. Commercial yards generally no longer have the necessary tools or manpower skills required. Such tools and skills would be preserved in this facility.

The south side of China Basin is also proposed as the site for a maritime industry and technological park. The park would preserve the tools and crafts of the past, ship and boat building technology in wood, iron and steel in working settings that could be viewed by the visitors. This facility could also serve as an education medium for modern techniques in shipbuilding, ship and engine design, navigation, and other aspects of the maritime industry. The museum complex should not only provide insight into the past, but should give young generations incentive for the present and future of the United States maritime industry.

The museum complex could provide facilities for the preservation of maritime archaeological relics, ships, or parts of ships. In the foreseeable future, important ship finds stand to be recovered in the San Francisco Bay Area and along the West Coast. Immediate examples are parts of the whale ship, LYDIA, built in 1840 and lying under the Embarcadero at the foot of King Street. Another is a nearly intact hull of a Gold Rush ship lying under Levi's Plaza.

Other known archaeological relics are remains of the Gold Rush ships NIANATIC and APOLLO which were used as hotels, saloons, and storage in the very early days of the city. Parts of these remain to be recovered. Other such relics are remains of the hull and machinery of the Gold Rush steamer TENNESSEE wrecked in 1852 north of the Golden Gate and possible remains of the Manila galleon SAN AGUSTIN wrecked at Drakes Bay in 1595.

The historic ships fleet currently comprises the British built square-rig ship BALCLUTHA, which in its early life carried grain from California to Europe and later served the Alaska Packers fleet sailing out of San Francisco Bay, the steam schooner WAPAMA, built in 1914 to carry lumber cargoes and passengers on the West Coast, the three-mast lumber schooner C.A. THAYER, the ocean-going steam tug HERCULES, the British paddle tug EPPLETON HALL, the San Francisco Bay scow schooner ALMA, the San Francisco Bay paddle-wheel ferry EUREKA, the World War II Liberty Ship JEREMIAH O'BRIEN, and the U.S. Navy World War II submarine PAMPANITO. It is possible, if not probable, that in time other ships will be added to this fleet.

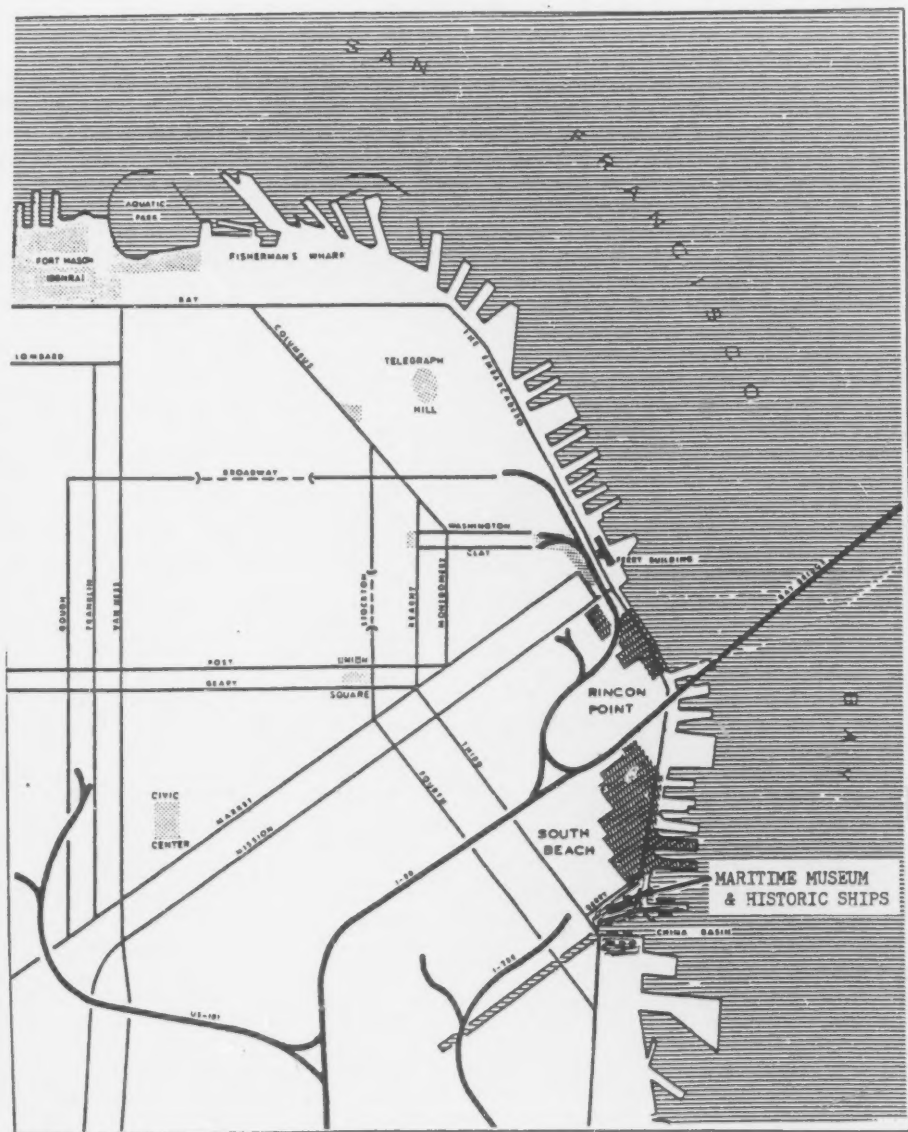
The C.A. THAYER, WAPAMA, and the ALMA are historically significant to the China Basin and Mission Creek area. The C.A. THAYER and WAPAMA regularly discharged lumber at wharves here from the Northwest. The ALMA brought hay and lumber products from the Sacramento and Delta region and returned with lumber and other goods from the city. The ALMA and WAPAMA are the last of their kind.

A theme motif for the maritime historical park could appropriately be a full-scale model of the Spanish brig, SAN CARLOS, under sail, the first ship to enter San Francisco Bay, August 5, 1775. The ship has sometimes been called the MAYFLOWER of the West. It is proposed that this model be wrought entirely in aluminum or bronze, or possibly in corrosion resistant steel, complete with a crew sculptured in the same metals. It would be set in a pool with moving water and fountain system to give the illusion of a ship underway.

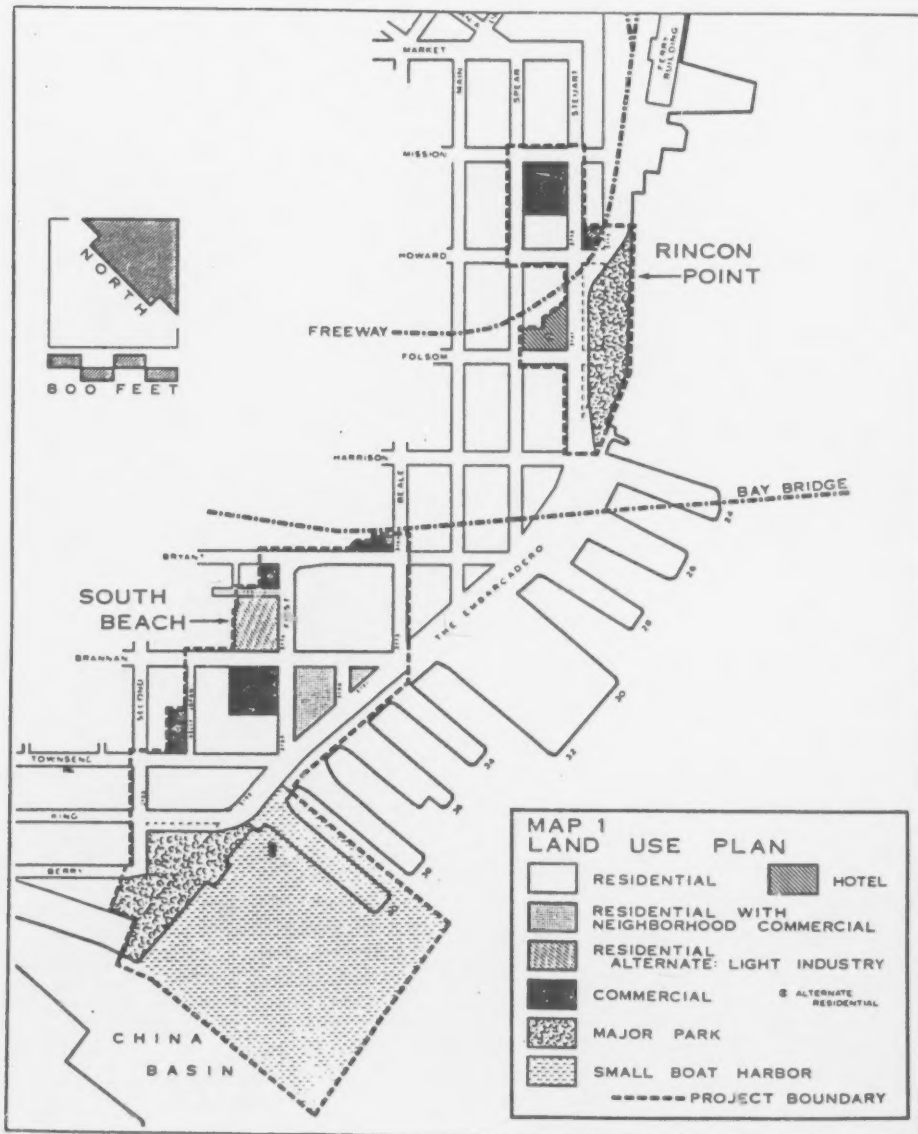
A unique opportunity exists here for making this museum an unusually thrilling and informative experience for residents and visitors from throughout our nation and abroad. It would serve as a focal point for West Coast and Pacific Basin maritime history.

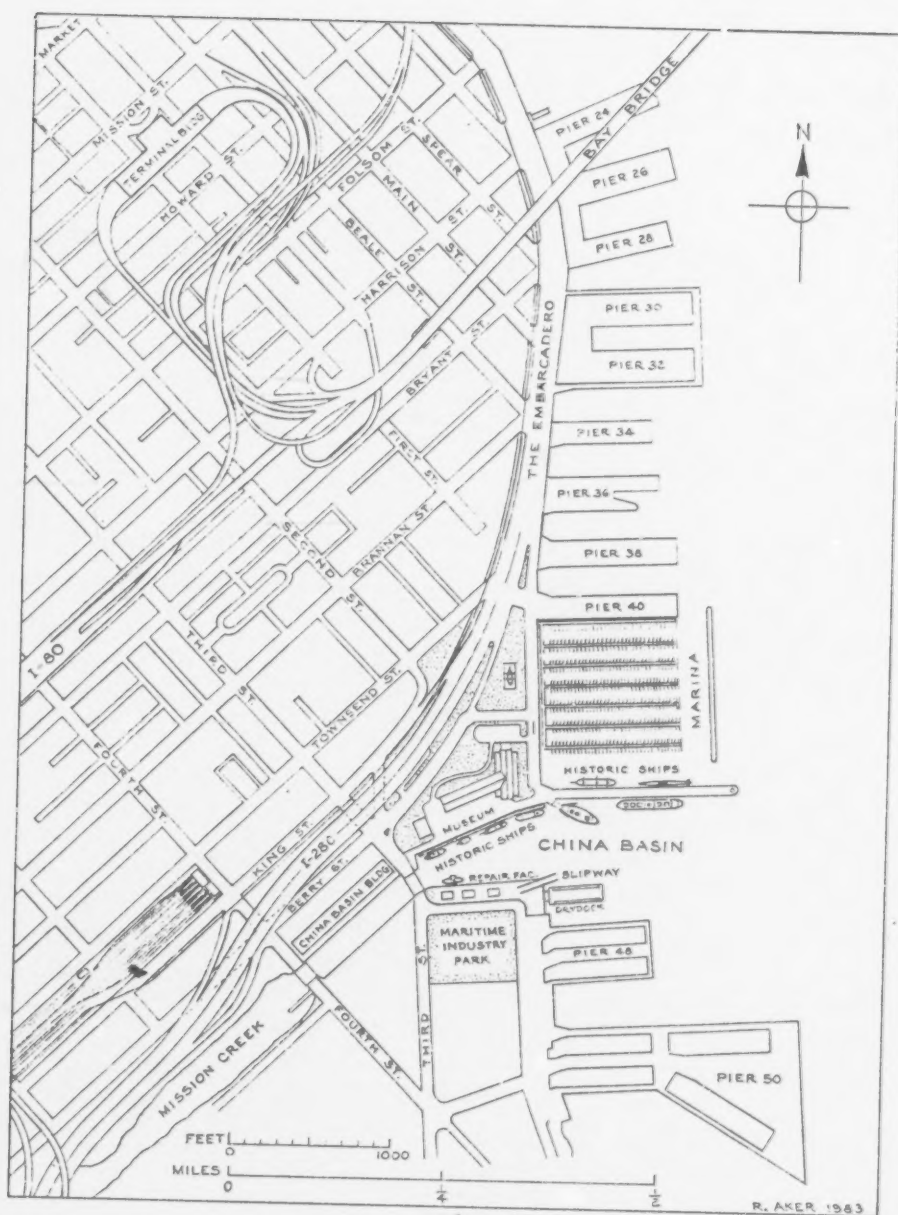
Capt Raymond Aker
Commander.
Friends of the Alma and Historic Ships.
2605 Waverley St.
Palo Alto, Ca 94306
(415) 327-2209

Vicinity map of the proposed Rincon Point - South Beach
Redevelopment Project. (Map courtesy of SFRA.)

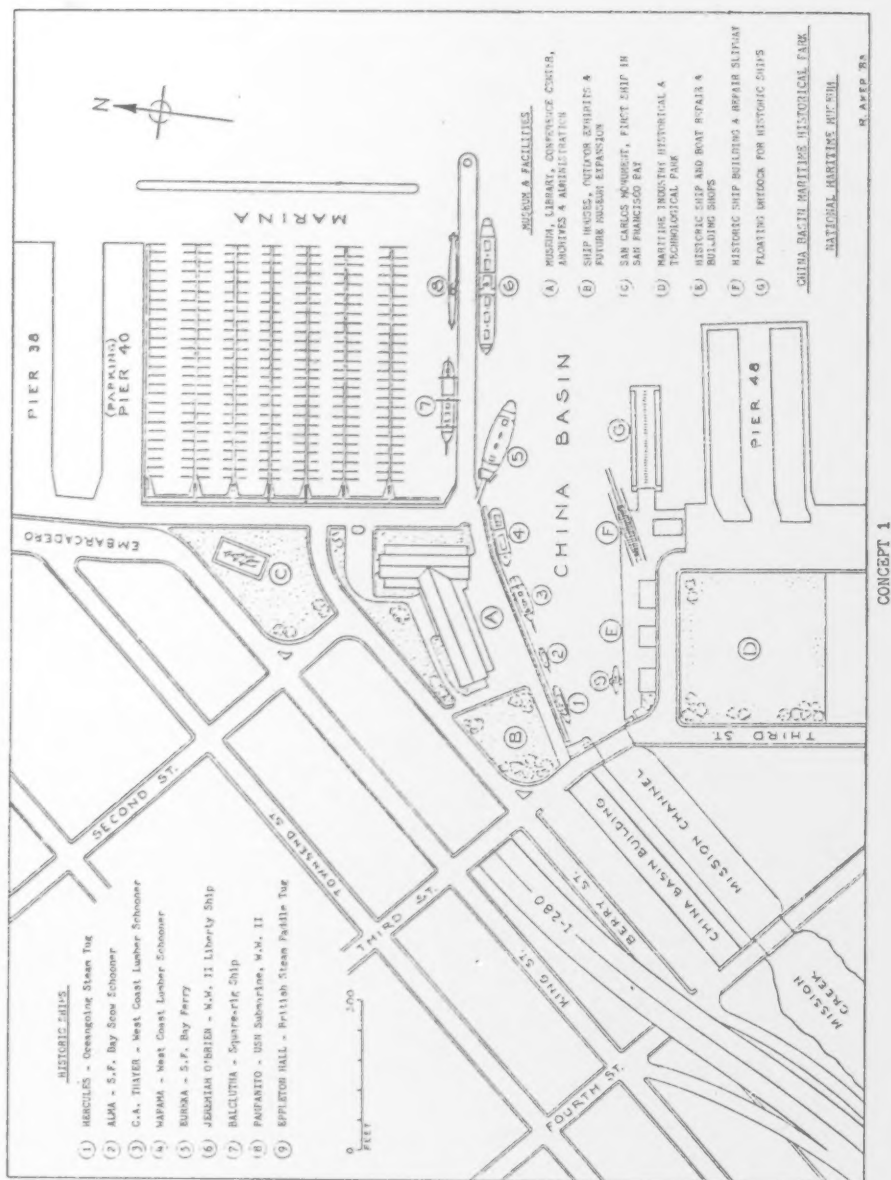


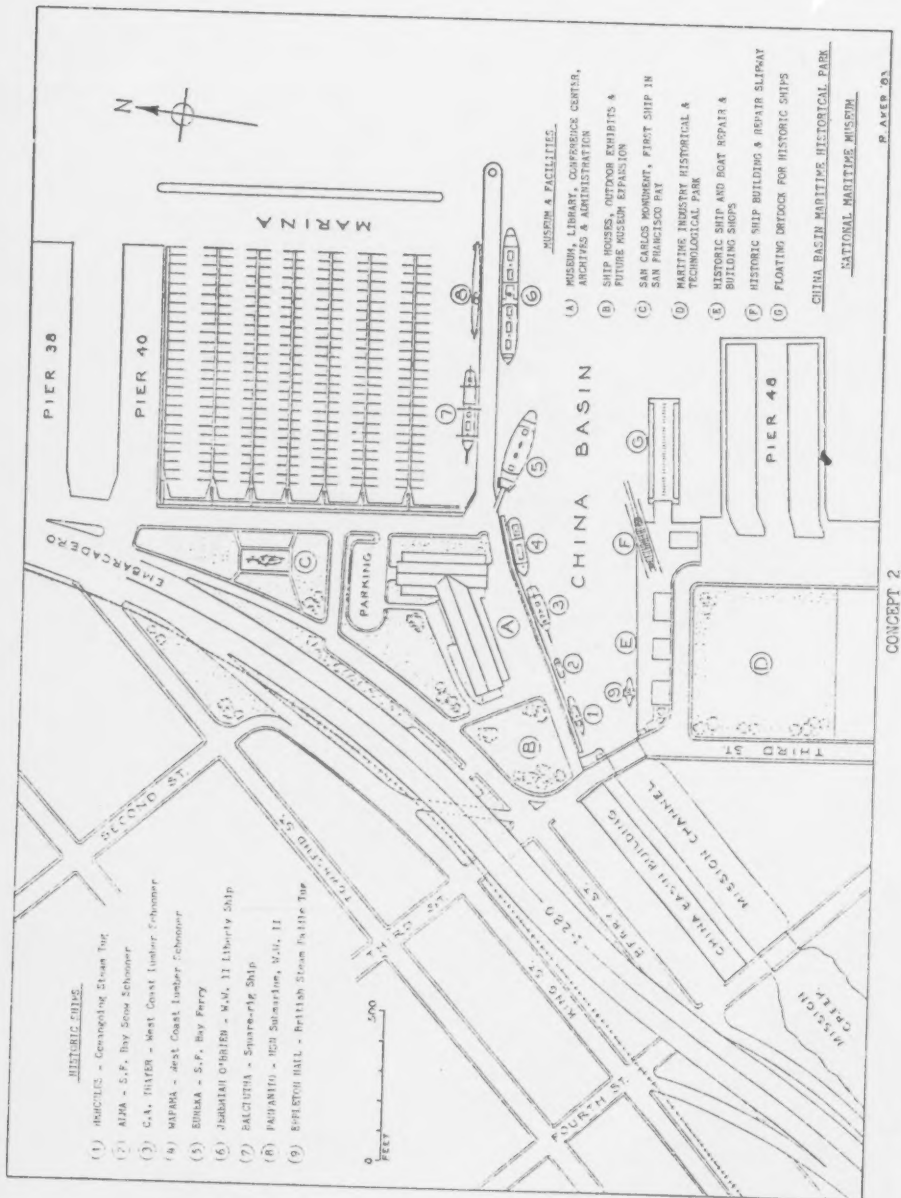
Land use plan for the proposed Rincon Point - South Beach Redevelopment Project. (Map courtesy of SFRA.)





CHINA BASIN MARITIME HISTORICAL PARK





SAN FRANCISCO TOMORROW

AN URBAN ENVIRONMENTAL ORGANIZATION

August 15, 1983

Senator James Abdnor, Chairman
Senate Subcommittee on Water Resources
6229 Dirksen Office Building
Washington, D. C. 20510

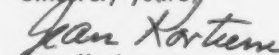
Dear Senator Abdnor:

This organization urges that the Subcommittee on Water Resources votes favorably on the building of the breakwater at Aquatic Park by the U.S. Army Corps of Engineers.

As we have testified in the past, this breakwater is of importance to San Francisco in the revitalization of the fishing industry and for the protection of the historic ships, an important aspect of San Francisco's billion dollar tourist industry.

San Francisco Tomorrow is an urban environmental group, with a membership of about 500.

Sincerely yours,


Jean Kortum